

10/735.256

11/12/04

## BEST AVAILABLE COPY

&lt;213&gt; Homo sapiens

&lt;400&gt; 4312

Xaa Arg Val Lys Gly Ile Arg Pro Trp Asn Cys Gln Arg Cys Phe Ala  
 1 5 10 15  
 His Tyr Asp Val Gln Ser Ile Leu Phe Asn Ile Asn Glu Ala Met Ala  
 20 25 30  
 Thr Arg Ala Asn Val Gly Lys Arg Lys Asn Ile Thr Thr Gly Ala Ser  
 35 40 45  
 Ala Ala Ser Gln Thr Gln Met Pro Thr Gly Gln Thr Gly Asn Cys Glu  
 50 55 60  
 Ser Pro Leu Gly Ser Lys Glu Asp Leu Asn Ser Lys Glu Asn Leu Asp  
 65 70 75 80  
 Ala Asp Glu Gly Asp Gly Lys Ser Asn Asp Leu Val Leu Ser Cys Pro  
 85 90 95  
 Tyr Phe Arg Asn Glu Thr Gly Gly Glu Gly Asp Arg Arg Ile Ala Leu  
 100 105 110  
 Ser Arg Ala Asn Ser Ser Ser Phe Ser Ser Gly Glu Ser Cys Ser Phe  
 115 120 125  
 Glu Ser Ser Leu Ser Ser His Cys Thr Asn Ala Gly Val Ser Val Leu  
 130 135 140

&lt;210&gt; 4313

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4313

ggatccctcc ttttctctcc cctgccctgc ccaggccag atggccttga ctgtaaagcc  
 60  
 aggtgctgcc tgacaggttc ttctctccct gtctctgggc attgatccat ctctttgtcc  
 120  
 attcagtatc caaccatcct ctccattctc ctctggacct caccactctc agagctgctt  
 180  
 gtccctggcag aatctacagt tcaccccaac tctatgcctt acccctccca acccaacagc  
 240  
 atttgcagtt tgcaaaatat acagacccaa gtccctgaggg gactgaggac atgatgctgg  
 300  
 gcccaagtct cctgctcagg gcttctctcc aatgccagcc ctgccactcc ttcctcaccc  
 360  
 tccttgagc ctctctgct gcttgctat cccaacggcc ctgctccct cccttctgc  
 420  
 ccttcaccag ctttctggga caccatgccc tgaggaaggg acctttgggt ttctctaaac  
 480  
 atctttgaag ggctgaggca gtcagggtct gctgccttgt cactctttat ttggaagcca  
 540  
 ctcaaaccat tccaagaag agggacctca gctggcaatc tggaaacctg gccaggtct  
 600  
 gggcagatgt cttcacttct cctaccttcc cagtcttggt atcctgtgat gagcaccagg  
 660  
 atggccctgt ggtccctaga gacccctca tgctgtaggg tctgcagcc ccctccttc  
 720  
 tctactgggc cctggtatcc tggctcctct ctcagctctg ccactgatct ctgtgcctta  
 780

gtttacttct ctgcacgggg gactcacccc aagaccattt ccagcagctt cccagggtgat  
840  
gtggtgcccc aaggctgggc tttgcagctg tggcccagct ccttagtgct gcccaggaga  
900  
caccaggctg ctcagaatga ggtgactgcg ggcaac  
936

<210> 4314  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 4314  
Met Ser Ser Leu Leu Leu Pro Ser Gln Ser Cys Asp Pro Val Met Ser  
1 5 10 15  
Thr Arg Met Ala Leu Trp Ser Leu Glu His Pro Ser Cys Cys Arg Val  
20 25 30  
Leu Gln Pro His Pro Phe Ser Thr Gly Pro Trp Tyr Pro Gly Ser Ser  
35 40 45  
Leu Ser Ser Ala Thr Asp Leu Cys Ala Leu Val Tyr Phe Ser Ala Arg  
50 55 60  
Gly Thr His Pro Lys Thr Ile Ser Ser Ser Phe Pro Gly Asp Val Val  
65 70 75 80  
Pro Gln Gly Trp Ala Leu Gln Leu Trp Pro Ser Ser Leu Val Leu Pro  
85 90 95  
Arg Arg His Gln Ala Ala Gln Asn Glu Val Thr Ala Gly Asn  
100 105 110

<210> 4315  
<211> 573  
<212> DNA  
<213> Homo sapiens

<400> 4315  
nncctaattcc aatatgactg gtgtccttat aagaagagga aattaggaca cagacaggca  
60  
cagagcgtatg accatgtgaa gacacaggga agagatggcc acctaccacc acgccatggt  
120  
cacctaccat ccaagccatg gtcaccttca ccaagccaca gtcattctacc atccaagcca  
180  
ccgtcaccta ccatccaagc catggccacc tacctgcaa gccatggcca cctaccgcc  
240  
aagccatggt cacctacca ccaagtcatt gtcgcctacc atccaaggag caggcctgga  
300  
acagatcctt cccagagcc ctcagtagga gccaacctg ctgacacctt gatctcagac  
360  
ttcaagcctc cagaactgtg ggacaatcct tcaactgtcat ttaatccacc cagcatgtgg  
420  
tctcttgta cagttgcatt agccagtga cctaccggg cccttctgca gtcgcctggc  
480  
tcaggagtgg ttctggtcag gaagttctga ggccaggcag gatcgggaca ctccttgga  
540  
agacccgagg gagatatttg ggaaacaaga tgg  
573



<210> 4316  
 <211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 4316  
 Xaa Leu Ile Gln Tyr Asp Trp Cys Pro Tyr Lys Lys Arg Lys Leu Gly  
 1 5 10 15  
 His Arg Gln Ala Gln Ser Asp Asp His Val Lys Thr Gln Gly Arg Asp  
 20 25 30  
 Gly His Leu Pro Pro Arg His Gly His Leu Pro Ser Lys Pro Trp Ser  
 35 40 45  
 Pro Ser Pro Ser His Ser His Leu Pro Ser Lys Pro Pro Ser Pro Thr  
 50 55 60  
 Ile Gln Ala Met Ala Thr Tyr Leu Pro Ser His Gly His Leu Pro Ala  
 65 70 75 80  
 Lys Pro Trp Ser Pro Thr His Gln Val Met Val Ala Tyr His Pro Arg  
 85 90 95  
 Ser Arg Pro Gly Thr Asp Pro Ser Pro Glu Pro Ser Val Gly Ala Asn  
 100 105 110  
 Pro Ala Asp Thr Leu Ile Ser Asp Phe Lys Pro Pro Glu Leu Trp Asp  
 115 120 125  
 Asn Pro Ser Leu Ser Phe Asn Pro Pro Ser Met Trp Ser Leu Val Thr  
 130 135 140  
 Val Ala Leu Ala Ser Glu Pro Thr Arg Ala Leu Leu Gln Ser Pro Gly  
 145 150 155 160  
 Ser Gly Val Val Leu Val Arg Lys Phe  
 165

<210> 4317  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 4317  
 nntgaagaga agtcaaaaaa ctcacgacct gtcagagatt tgggggtccat ttcaggatca  
 60  
 tcccatgccg aaaacataact ccagatatattt aatgaatttc gtgatagccg cttattcaca  
 120  
 gatgttatca tttgggtgga aggaaaagaa tttccttgcc atagagctgt gctctcagcc  
 180  
 tgtagcagct acttcagagc tatgttttgt aatgaccaca gggaaagccg agaaatgttg  
 240  
 gttgagatca atggatatttt agctgaagct atggaatgtt ttttgcagta tgtttataact  
 300  
 ggaaaggtga agatcactac agagaatgta cagtatctct ttgagacatc aagcctcttt  
 360  
 cagattagtg ttctccgtga tgcattgtgcc aagttcttgg aggagcaact tgatccttgt  
 420  
 aattgcttag gaatccagcg ctttgctgat acccattcac tcaaaacact cttcacaaaa  
 480  
 tgcaaaaatt ttgcgttaca gacttttgag gatgtatccc agcacgaaga atttcttgag  
 540

cttgacaaag atgaacttat tgattatatt tgtagtgatg aacttggtat tggtaaagag  
 600  
 gagatgggtt ttgaagccgt catgcgttgg gtctatcgtg ccgttgatct gagaagacca  
 660  
 ctgttacacg agctcctgac acatgtgaga ctccctctgt tgcaccccaa ctactttggt  
 720  
 caaacagttg aagtggacca attg  
 744

<210> 4318  
 <211> 239  
 <212> PRT  
 <213> Homo sapiens

<400> 4318  
 Pro Val Arg Asp Leu Gly Ser Ile Ser Gly Ser Ser His Ala Glu Asn  
 1 5 10 15  
 Ile Leu Gln Ile Phe Asn Glu Phe Arg Asp Ser Arg Leu Phe Thr Asp  
 20 25 30  
 Val Ile Ile Trp Val Glu Gly Lys Glu Phe Pro Cys His Arg Ala Val  
 35 40 45  
 Leu Ser Ala Cys Ser Ser Tyr Phe Arg Ala Met Phe Cys Asn Asp His  
 50 55 60  
 Arg Glu Ser Arg Glu Met Leu Val Glu Ile Asn Gly Ile Leu Ala Glu  
 65 70 75 80  
 Ala Met Glu Cys Phe Leu Gln Tyr Val Tyr Thr Gly Lys Val Lys Ile  
 85 90 95  
 Thr Thr Glu Asn Val Gln Tyr Leu Phe Glu Thr Ser Ser Leu Phe Gln  
 100 105 110  
 Ile Ser Val Leu Arg Asp Ala Cys Ala Lys Phe Leu Glu Glu Gln Leu  
 115 120 125  
 Asp Pro Cys Asn Cys Leu Gly Ile Gln Arg Phe Ala Asp Thr His Ser  
 130 135 140  
 Leu Lys Thr Leu Phe Thr Lys Cys Lys Asn Phe Ala Leu Gln Thr Phe  
 145 150 155 160  
 Glu Asp Val Ser Gln His Glu Glu Phe Leu Glu Leu Asp Lys Asp Glu  
 165 170 175  
 Leu Ile Asp Tyr Ile Cys Ser Asp Glu Leu Val Ile Gly Lys Glu Glu  
 180 185 190  
 Met Val Phe Glu Ala Val Met Arg Trp Val Tyr Arg Ala Val Asp Leu  
 195 200 205  
 Arg Arg Pro Leu Leu His Glu Leu Leu Thr His Val Arg Leu Pro Leu  
 210 215 220  
 Leu His Pro Asn Tyr Phe Val Gln Thr Val Glu Val Asp Gln Leu  
 225 230 235

<210> 4319  
 <211> 388  
 <212> DNA  
 <213> Homo sapiens

<400> 4319  
 nccatggaga aaagtattga tgctgtgatt gcaactgcct ctgcaccacc ttcttccagt  
 60

ccaggccgta gccacagcaa ggaccgaacc ctgggaaaac cagacagcct tttagtgcct  
 120  
 gcagtgcgaa gtgactcttg caataatagc atctcactcc tatctgaaaa gttgacaagc  
 180  
 agctgttccc cccatcatat caagagaagt gtagtggaag ctatgcaacg ccaagctcgg  
 240  
 aaaatgtgca attacgacaa aatcttg gcc acaaagaaaa acctagacca tgtcaataaa  
 300  
 atcttaaaag ccaaaaaact tcaaaggcag gccaggacag ggaataactt tgtgaaacgt  
 360  
 aggccaggtc gaccgcggtc ggagagag  
 388

<210> 4320  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

<400> 4320  
 Xaa Met Glu Lys Ser Ile Asp Ala Val Ile Ala Thr Ala Ser Ala Pro  
 1 5 10 15  
 Pro Ser Ser Ser Pro Gly Arg Ser His Ser Lys Asp Arg Thr Leu Gly  
 20 25 30  
 Lys Pro Asp Ser Leu Leu Val Pro Ala Val Ala Ser Asp Ser Cys Asn  
 35 40 45  
 Asn Ser Ile Ser Leu Leu Ser Glu Lys Leu Thr Ser Ser Cys Ser Pro  
 50 55 60  
 His His Ile Lys Arg Ser Val Val Glu Ala Met Gln Arg Gln Ala Arg  
 65 70 75 80  
 Lys Met Cys Asn Tyr Asp Lys Ile Leu Ala Thr Lys Lys Asn Leu Asp  
 85 90 95  
 His Val Asn Lys Ile Leu Lys Ala Lys Lys Leu Gln Arg Gln Ala Arg  
 100 105 110  
 Thr Gly Asn Asn Phe Val Lys Arg Arg Pro Gly Arg Pro Arg Ser Glu  
 115 120 125  
 Arg

<210> 4321  
 <211> 278  
 <212> DNA  
 <213> Homo sapiens

<400> 4321  
 ngcccagaac ctgccacagt cccctgagaa caccgacctg caggttattc caggcagcca  
 60  
 gaccaggctc cttggtgaga agaccaccac agcggcaggg tccagccaca gcaggcccgg  
 120  
 cgtcccgggtg gaaggcagcc ctgggcggaa cccaggcggt taacgggtca ctaggcagcc  
 180  
 ccagatctgg ggaacagatg agcacgtggg gagctggagt gagctgagca gaagttttgt  
 240  
 gccgcctgc ccccatcccc tccaggccac gttttaga  
 278

<210> 4322  
 <211> 85  
 <212> PRT  
 <213> Homo sapiens

<400> 4322  
 Met Gly Ala Gly Gly His Lys Thr Ser Ala Gln Leu Thr Pro Ala Pro  
 1 5 10 15  
 His Val Leu Ile Cys Ser Pro Asp Leu Gly Leu Pro Ser Glu Pro Leu  
 20 25 30  
 Asn Ala Trp Val Pro Pro Arg Ala Ala Phe His Arg Asp Ala Gly Pro  
 35 40 45  
 Ala Val Ala Gly Pro Cys Arg Cys Gly Gly Leu Leu Thr Lys Glu Pro  
 50 55 60  
 Gly Leu Ala Ala Trp Asn Asn Leu Gln Val Gly Val Leu Arg Gly Leu  
 65 70 75 80  
 Trp Gln Val Leu Gly  
 85

<210> 4323  
 <211> 1542  
 <212> DNA  
 <213> Homo sapiens

<400> 4323  
 ngttacagta aagatggagc aaagtccttg aaaggagatg tgcctgcctc tgaggtgaca  
 60  
 ctgaaagact cgacattcag ccagtttagc ccgatctcca gtgctgaaga gtttcatgac  
 120  
 gacgagaaga ttgaggtgga tgacccccct gacaaggagg acatgcgatc aagcttcagg  
 180  
 tcgaatgtgt tgacgggggc ggctccccag caggactacg ataagctgaa ggcactcgga  
 240  
 ggggaaaact ccagcaaaac tggactctct acgtcaggca atgtggagaa aaacaaagct  
 300  
 gttaagagag aaacagaagc cagttctata aacctgagtg tttatgaacc ttttaaagtc  
 360  
 agaaaagcag aggataaatt gaaggaaagc tctgacaagg tgctggaaaa cagagtccta  
 420  
 gatgggaagc tgagctccga gaagaatgac accagcctcc ccagcgttgc gccatcaaag  
 480  
 acaaagtcgt cctccaagct ctcgtcctgc atcgtgcca tcgcggctct cagcgctaaa  
 540  
 aaggcggctt cagactcctg caaagaacca gtggccaatt cgagggaatc ctccccgtta  
 600  
 ccaaaagaag taaatgacag tccgagagcc gctgacaagt ctctgaatc ccagaatctc  
 660  
 atcgacggga ccaaaaaacc atccctgaag caaccggata gtcccagaag catctcaagt  
 720  
 gagaacagca gcaaaggatc cccgtcctct cccgcggggc ccacaccagc aatccccaaa  
 780  
 gtccgcataa aaaccattaa gacatcttct ggggaaatca agagaacagt gaccagggta  
 840

ttgccagaag tggatcttga ctctggaaaag aaaccttccg agcagacagc gtccgctcatg  
 900  
 gcctctgtga catcccttct gtcgtctcca gcatcagccg ccgtcctttc ctctccccc  
 960  
 agggcgccctc tccagtctgc ggtcgtgacc aatgcagttt cccctgcaga gctcaccccc  
 1020  
 aaacaggtca caatcaagcc tgtggctact gctttcctcc cagtgtctgc tgtgaagacg  
 1080  
 gcaggatccc aagtcattaa tttgaagctc gctaacaaca ccacggtgaa agccacggtc  
 1140  
 atatctgctg cctctgtcca gagtgccagc agcgccatca ttaaagctgc caacgccatc  
 1200  
 cagcagcaaa ctgtcgtggt gccggcatcc agcctggcca atgccaaact cgtgccaaag  
 1260  
 actgtgcacc ttgccaacct taaccttttg cctcaggggtg cccaggccac ctctgaacte  
 1320  
 cgccaagtgc taaccaaaccc tcagcaacaa ataaagcagg caataatcaa tgcagcagcc  
 1380  
 tcgcaacccc caaaaaaggt gtctcgagtc caggtgggtg cgtccttgca gagttctgtg  
 1440  
 gtggaagctt tcaacaaggt gctgagcagt gtcaatccag tccctgttta catcccaaac  
 1500  
 ctcatcctc ccgccaatgc agggatcacg ttaccgacgc gt  
 1542

&lt;210&gt; 4324

&lt;211&gt; 514

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4324

Xaa	Tyr	Ser	Lys	Asp	Gly	Ala	Lys	Ser	Leu	Lys	Gly	Asp	Val	Pro	Ala
1				5					10					15	
Ser	Glu	Val	Thr	Leu	Lys	Asp	Ser	Thr	Phe	Ser	Gln	Phe	Ser	Pro	Ile
			20						25					30	
Ser	Ser	Ala	Glu	Glu	Phe	Asp	Asp	Asp	Glu	Lys	Ile	Glu	Val	Asp	Asp
		35							40					45	
Pro	Pro	Asp	Lys	Glu	Asp	Met	Arg	Ser	Ser	Phe	Arg	Ser	Asn	Val	Leu
	50					55					60				
Thr	Gly	Ser	Ala	Pro	Gln	Gln	Asp	Tyr	Asp	Lys	Leu	Lys	Ala	Leu	Gly
65					70					75				80	
Gly	Glu	Asn	Ser	Ser	Lys	Thr	Gly	Leu	Ser	Thr	Ser	Gly	Asn	Val	Glu
			85							90				95	
Lys	Asn	Lys	Ala	Val	Lys	Arg	Glu	Thr	Glu	Ala	Ser	Ser	Ile	Asn	Leu
			100						105					110	
Ser	Val	Tyr	Glu	Pro	Phe	Lys	Val	Arg	Lys	Ala	Glu	Asp	Lys	Leu	Lys
		115					120					125			
Glu	Ser	Ser	Asp	Lys	Val	Leu	Glu	Asn	Arg	Val	Leu	Asp	Gly	Lys	Leu
	130					135					140				
Ser	Ser	Glu	Lys	Asn	Asp	Thr	Ser	Leu	Pro	Ser	Val	Ala	Pro	Ser	Lys
145					150					155				160	
Thr	Lys	Ser	Ser	Ser	Lys	Leu	Ser	Ser	Cys	Ile	Ala	Ala	Ile	Ala	Ala
				165					170					175	
Leu	Ser	Ala	Lys	Lys	Ala	Ala	Ser	Asp	Ser	Cys	Lys	Glu	Pro	Val	Ala

```

      180      185      190
Asn Ser Arg Glu Ser Ser Pro Leu Pro Lys Glu Val Asn Asp Ser Pro
      195      200      205
Arg Ala Ala Asp Lys Ser Pro Glu Ser Gln Asn Leu Ile Asp Gly Thr
      210      215      220
Lys Lys Pro Ser Leu Lys Gln Pro Asp Ser Pro Arg Ser Ile Ser Ser
225      230      235      240
Glu Asn Ser Ser Lys Gly Ser Pro Ser Ser Pro Ala Gly Ser Thr Pro
      245      250      255
Ala Ile Pro Lys Val Arg Ile Lys Thr Ile Lys Thr Ser Ser Gly Glu
      260      265      270
Ile Lys Arg Thr Val Thr Arg Val Leu Pro Glu Val Asp Leu Asp Ser
      275      280      285
Gly Lys Lys Pro Ser Glu Gln Thr Ala Ser Val Met Ala Ser Val Thr
290      295      300
Ser Leu Leu Ser Ser Pro Ala Ser Ala Ala Val Leu Ser Ser Pro Pro
305      310      315      320
Arg Ala Pro Leu Gln Ser Ala Val Val Thr Asn Ala Val Ser Pro Ala
      325      330      335
Glu Leu Thr Pro Lys Gln Val Thr Ile Lys Pro Val Ala Thr Ala Phe
      340      345      350
Leu Pro Val Ser Ala Val Lys Thr Ala Gly Ser Gln Val Ile Asn Leu
      355      360      365
Lys Leu Ala Asn Asn Thr Thr Val Lys Ala Thr Val Ile Ser Ala Ala
      370      375      380
Ser Val Gln Ser Ala Ser Ser Ala Ile Ile Lys Ala Ala Asn Ala Ile
385      390      395      400
Gln Gln Gln Thr Val Val Val Pro Ala Ser Ser Leu Ala Asn Ala Lys
      405      410      415
Leu Val Pro Lys Thr Val His Leu Ala Asn Leu Asn Leu Leu Pro Gln
      420      425      430
Gly Ala Gln Ala Thr Ser Glu Leu Arg Gln Val Leu Thr Lys Pro Gln
      435      440      445
Gln Gln Ile Lys Gln Ala Ile Ile Asn Ala Ala Ala Ser Gln Pro Pro
      450      455      460
Lys Lys Val Ser Arg Val Gln Val Val Ser Ser Leu Gln Ser Ser Val
465      470      475      480
Val Glu Ala Phe Asn Lys Val Leu Ser Ser Val Asn Pro Val Pro Val
      485      490      495
Tyr Ile Pro Asn Leu Ser Pro Pro Ala Asn Ala Gly Ile Thr Leu Pro
      500      505      510
Thr Arg

```

&lt;210&gt; 4325

&lt;211&gt; 1405

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4325

```

acgcgtgccc ggggtctgct gtgcagcgca gcccgttgtg gtgatacgag ccggagatgc
60
cttctgcagg gactgtttca aggccttcta cgtccacaag ttcatagcca tgctgggcaa
120

```

gaaccggctc atctttccag gcgagaaggt agcgtctggg tcctgggggt ctgactgagc  
 180  
 agcctggccc ctcgaggtcc ctgcttgccc ctccacagg cagcctggcc tgctgcagcc  
 240  
 cgccagctcc tccttggcct ttgaggacag actcgatgtc ctagatgtcc acgaggtggg  
 300  
 gtgtctgcct gtgttggagg tgcggtgccc tgagtgatgt tttttctccc ccaggtgctc  
 360  
 ttggcgtggt ctggggggcc ttcgtccagc tccatggtct ggcaggttct tgagggcctg  
 420  
 agccaagatt ctgcaaaaag actgcgcttt gtggcaggag tcactcttct tgacgagggg  
 480  
 gcagcctgtg gccagagcct agaggagaga tcaaagaccc tggccgaagt gaagcccatt  
 540  
 ctgcaagcaa ctgggttccc atggcatgtg gtggccttag aggaggtgtt cagcctgcca  
 600  
 ccgtcgggtg tttggtgctc tgcccaggag ctggtgggat ccgagggggc ctacaaggcg  
 660  
 gccgtggaca gcttcctcca gcagcagtat gtgctggggg ccgggggtgg tcctggcccg  
 720  
 actcaagggg aggaacagcc accccagccc ccgctggacc ccagaacct ggcaagaccg  
 780  
 cctgcccctg ccagactga ggctctttcc caactgttct gctcagttag gacactgact  
 840  
 gccaaaggag agcttctgca gacctgcgg acccactga tcctccacat ggcccagacc  
 900  
 cacggctact ccaaggtcat gactggggac agctgcacac gcttggctat caagctcatg  
 960  
 accaacctgg cgctgggtcg aggggccttc ctggcctggg atacgggctt ctcggtatgag  
 1020  
 cggcacgggg acgtggtggt ggtgcggccc atgcgggacc acaccctgaa ggaggtcgct  
 1080  
 ttctacaacc gcctgttctc cgttccttct gtcttcacac cagccgtcga caccaaggcc  
 1140  
 cctgaaaagg ccagcateca ccggctgatg gaggccttca tcctcaggct gcagacccag  
 1200  
 ttcccctcca ctgtcagcac tgtgtacagg tgtgtgtggg tgtgtgcggg ggggtgcgcg  
 1260  
 gtgtgtgctg tgtgcgggtg tgtgcgggtg gtgagctcac cactcgtgct caggccaggg  
 1320  
 cttaggtggt agccccagcc cgtgtgattc acctgctcct ccacaaatcc ggccacagga  
 1380  
 caagtgaaga gcttgtgaag ggccc  
 1405

&lt;210&gt; 4326

&lt;211&gt; 336

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4326

Met Phe Phe Leu Pro Gln Val Leu Leu Ala Trp Ser Gly Gly Pro Ser  
 1 5 10 15  
 Ser Ser Ser Met Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser

20	25	30
Ala Lys Arg Leu Arg Phe Val	Ala Gly Val Ile Phe Val	Asp Glu Gly
35	40	45
Ala Ala Cys Gly Gln Ser Leu	Glu Glu Arg Ser Lys Thr	Leu Ala Glu
50	55	60
Val Lys Pro Ile Leu Gln Ala	Thr Gly Phe Pro Trp His	Val Val Ala
65	70	75
Leu Glu Glu Val Phe Ser Leu	Pro Pro Ser Val Leu Trp	Cys Ser Ala
85	90	95
Gln Glu Leu Val Gly Ser Glu	Gly Ala Tyr Lys Ala Ala	Val Asp Ser
100	105	110
Phe Leu Gln Gln Gln Tyr Val	Leu Gly Ala Gly Gly Gly	Pro Gly Pro
115	120	125
Thr Gln Gly Glu Glu Gln Pro	Gln Pro Pro Leu Asp	Pro Gln Asn
130	135	140
Leu Ala Arg Pro Pro Ala Pro	Ala Gln Thr Glu Ala Leu	Ser Gln Leu
145	150	155
Phe Cys Ser Val Arg Thr Leu	Thr Ala Lys Glu Glu Leu	Leu Gln Thr
165	170	175
Leu Arg Thr His Leu Ile Leu	His Met Ala Arg Ala His	Gly Tyr Ser
180	185	190
Lys Val Met Thr Gly Asp Ser	Cys Thr Arg Leu Ala Ile	Lys Leu Met
195	200	205
Thr Asn Leu Ala Leu Gly Arg	Gly Ala Phe Leu Ala Trp	Asp Thr Gly
210	215	220
Phe Ser Asp Glu Arg His Gly	Asp Val Val Val Val Arg	Pro Met Arg
225	230	235
Asp His Thr Leu Lys Glu Val	Ala Phe Tyr Asn Arg Leu	Phe Ser Val
245	250	255
Pro Ser Val Phe Thr Pro Ala	Val Asp Thr Lys Ala Pro	Glu Lys Ala
260	265	270
Ser Ile His Arg Leu Met Glu	Ala Phe Ile Leu Arg Leu	Gln Thr Gln
275	280	285
Phe Pro Ser Thr Val Ser Thr	Val Tyr Arg Cys Val Trp	Val Cys Ala
290	295	300
Gly Gly Ala Arg Val Cys Ala	Val Cys Gly Cys Val Arg	Val Val Ser
305	310	315
Ser Pro Leu Val Leu Arg Pro	Gly Leu Arg Val Glu Pro	Gln Pro Val
325	330	335

&lt;210&gt; 4327

&lt;211&gt; 551

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4327

tggccacagg cagagccgcc tctgcaggtg acaccacccc caggccgtgc accccacctc

60

caccctcgca ggccaccag acggcagctt ggggaaacct gggaggtccc gtaccctcac

120

tgtgcaggtg gggaaattta gaccctgaaa aagggatgcc ctgagatcac catgagattg

180

aggggcaagc agggctcacc ctgactgggt cacttcccag gcaccccat gagcccaggc

240



accgcctgcc accctcactc tccaggaaga gccaccgcgt ggtggccggg atcgtgtggt  
 300  
 ggccagggcg tctgaccttg gctctcaccg ggaggccatc caggtgctga ggatggctaa  
 360  
 cgctaaggcc acacagccag ggagaggagg tggctcgtga caccacgatg ggacacaccc  
 420  
 acctctggga gaggaggggtg actccgacag cccttgcctg ccaggatgga gcctggactc  
 480  
 tggagggcat cgtgtcctgg agcagcacca gcacctcctg ttgtcaccag gcgtggatgc  
 540  
 ccgcatcatg a  
 551

<210> 4328

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4328

Met	Pro	Ser	Arg	Val	Gln	Ala	Pro	Ser	Trp	Gln	Ala	Arg	Ala	Val	Gly
1				5					10					15	
Val	Thr	Leu	Leu	Ser	Gln	Arg	Trp	Val	Cys	Pro	Ile	Val	Val	Ser	Arg
		20						25					30		
Ala	Thr	Ser	Ser	Pro	Trp	Leu	Cys	Gly	Leu	Ser	Val	Ser	His	Pro	Gln
		35					40					45			
His	Leu	Asp	Gly	Leu	Arg	Val	Arg	Ala	Lys	Val	Arg	Arg	Pro	Gly	His
	50					55				60					
His	Thr	Ile	Pro	Ala	Thr	Thr	Arg	Trp	Leu	Phe	Leu	Glu	Ser	Glu	Gly
65					70					75				80	
Gly	Arg	Arg	Cys	Leu	Gly	Ser	Trp	Gly	Cys	Leu	Gly	Ser	Glu	Pro	Val
			85						90					95	
Arg	Val	Ser	Pro	Ala	Cys	Pro	Ser	Ile	Ser	Trp					
			100						105						

<210> 4329

<211> 3192

<212> DNA

<213> Homo sapiens

<400> 4329

cttaagactt tcaaagccca ataaaaatat atccaggagg gccagctaca atgagcccaa  
 60  
 gccagaggtc acctacatca gccagaaaat ctatgacctc tcagacagca agatttatct  
 120  
 tgtacctaaa actttggctc gaaagcgaat ctggaataaaa aagtacccca tttgtatcga  
 180  
 gcttggctcag caagatgact ttatgtctaa agctcagact gataaggaga cttcagaaga  
 240  
 gaagccgccca gctggaggaa gggaggaccc ttagaagcca ccccgccctc aggaggaaca  
 300  
 agatctagcc agcgagatca gatactctat ctctttggga gaactggccg agaaaaagag  
 360  
 gaatggttta ggagatttat tctggcatct aagctaaagt cggaatcaa gaagtcatcg  
 420

ggtgtctctg gaggtaaacc agggcttttg cctgcacaca gcagacacaa cagtccgtcc  
480  
gggcacctga cccacagccg cagcagcagc aaaggcagtg tggaggagat catgtcacag  
540  
ccaaagcaga aggagctggc aggcagcgtg cggcagaaga tgcttctcga ctacagcgtg  
600  
tacatgggca ggtgtgtccc ccaggaaagc cgaagcccc agaggagccc cctgcagagt  
660  
gctggagagca gccccacagc tgggaagaag ttgccagagg ttccaccctc tgaggaggaa  
720  
gaacaggaag cctgggtgaa tgccttgctt ggaagaatat tttgggactt cttaggagag  
780  
aaatactggt ctgatctggt gtctaagaag atccaaatga aactcagcaa aataaagctc  
840  
ccctacttta tgaatgagct cactctgacg gaacttgaca tgggcgtggc tgtgccaaaa  
900  
atcctccagg ccttcaagcc ttacgttgat caccaaggac tctggattga tttggaaatg  
960  
tcctacaatg ggtcctttct gatgactctc gagacaaaa tgaatttgcc taaactaggt  
1020  
aaagagcctc ttgttgaagc cctgaagggt ggagaaattg gcaaagaagg ttgcaggccc  
1080  
cgggcattct gtctggcgga cagcgatgag gaatcctcca gcgctggctc ctccgaggaa  
1140  
gacgatgccc cagagcccgc gggggagaca aacagctcct cccaggggga agggtagctt  
1200  
ggaggtcatc gaacaagtaa gattatgagg tttgttgata aaattaccaa gtcaaaatat  
1260  
ttcaaaaaag caacagagac agagtttata aaaaganaga tcgaagaagt ctccaacaca  
1320  
cccctgctgc tcaactgttg agtacaagaa tgtagaggaa ccttggcggt caacattcca  
1380  
ccacccccga ctgaccgagt atggtatggt ttccgaaagc caccacatgt ggagctgaaa  
1440  
gctcggccaa aacttgagga gagagaagtg actttagttc atgtgacaga ctggatagag  
1500  
aagaaactgg agcaagagtt tcagaaagtt tttgtcatgc caaacatgga tgatgtttat  
1560  
atcactataa tgcactcagc catggaccct cgctctactt cctgcctcct gaaagaccca  
1620  
cctgtggagg ctgctgatcg gccatgatgg gtgatgtcag atgttcccca tattgtgaca  
1680  
tcgagctgga tgtgtggggt tcttggccgc catctgtact gtagcactgg cctctgtgcc  
1740  
acagctactg tttcttaaag gactgcttct gccctctgcc tgccagtgcc cattccactg  
1800  
tgaggtgtca ttccctgcat ctagtgacaa ctgtctggat tgccctgctg aaagctttga  
1860  
tttggcaaag gagaccatgg aagaatcatg gtggatccag aagttatacg tgaccacac  
1920  
catggctttt aaaagtctac ccatgtttgt ggcagcaaat gagcacagta agagcaaagc  
1980  
tgaacaactt gcctcctcta ctccctcaaa gcttttcttc aggcagccgg tgcacagtgg  
2040

actttttcac ttctatactt tgtatgcggc cttccacact tccagagaat gtcagtgtgc  
 2100  
 aatgtgtctg gaggggtggg agaggaattc tgtgagcctt ttcatttcgg tgacagaaga  
 2160  
 gatgggcaga gcaacttatt ttccacatta aattgtgcat ttgggaagca agtagccata  
 2220  
 gtacacacac aacacgctat cagcttgggt aaggacagtg ggatttatgt gaacatcagg  
 2280  
 caaagccatg agatcaaacc atcccaagcc tttcaccaat gaggtacaac cacctggggg  
 2340  
 cttagctaatac ttgaatgttt tcctgagaca ggagcgtatg tgaaaacatc aaacactgca  
 2400  
 catgacagga tgggtcctct catacagatg ggatgggggt agaaagccag agccagtttt  
 2460  
 tccatctggc gtttcctgtg tcctccaggt ttatatggga atcgaaacag tttgttaate  
 2520  
 tgattgggag agttccatgg gcagatttcc cttcctgaag gccaaaacgg agaactgctc  
 2580  
 tctttaatta tttcaagagt caagaccaa agtttgctca gcatcacact acatctcaaa  
 2640  
 attaatgttg ccaacttaat tttgtgcatt tgtgtcagaa tgtttagttt acaaggtttg  
 2700  
 gggctctctt tgcttcgaga agtaaaccta ataccatttt tttattgttt aaagctgcat  
 2760  
 tcaacgtcaa aattaccttg ggtaactttt gataacttac atgtgtggac aaagctaata  
 2820  
 gtgggttttt aaacagcacc ttgcctgaac atgactttaa agaaattaat atattgaaaa  
 2880  
 catgtttgaa cccttatttt aattgcacca ttaaaacatt tgacttaaat tgtttgacca  
 2940  
 ttccagttgg tgtactgttc tgatttttcg ttgtgtaggc cgatctgcct gtcagagtc  
 3000  
 acgtgtcctg gtcactggtc tttataattg ttgtgcaata actaaaggct aaggactaga  
 3060  
 tgcactatcg tgtaaagaga ttacacatga ctgtaccatg ttgcacttaa tcaaatagta  
 3120  
 tgtggggatt taaaatcgct tgcattgttt cacaaaataa atatctcaat gtcaaatact  
 3180  
 aaaaaaaaaa aa  
 3192

<210> 4330

<211> 371

<212> PRT

<213> Homo sapiens

<400> 4330

Met	Ser	Gln	Pro	Lys	Gln	Lys	Glu	Leu	Ala	Gly	Ser	Val	Arg	Gln	Lys
1				5					10					15	
Met	Leu	Leu	Asp	Tyr	Ser	Val	Tyr	Met	Gly	Arg	Cys	Val	Pro	Gln	Glu
			20					25					30		
Ser	Arg	Ser	Pro	Gln	Arg	Ser	Pro	Leu	Gln	Ser	Ala	Glu	Ser	Ser	Pro
		35					40				45				
Thr	Ala	Gly	Lys	Lys	Leu	Pro	Glu	Val	Pro	Pro	Ser	Glu	Glu	Glu	Glu

50		55		60	
Gln Glu Ala Trp Val Asn Ala Leu Leu Gly Arg Ile Phe Trp Asp Phe					
65		70		75	80
Leu Gly Glu Lys Tyr Trp Ser Asp Leu Val Ser Lys Lys Ile Gln Met					
	85		90		95
Lys Leu Ser Lys Ile Lys Leu Pro Tyr Phe Met Asn Glu Leu Thr Leu					
	100		105		110
Thr Glu Leu Asp Met Gly Val Ala Val Pro Lys Ile Leu Gln Ala Phe					
	115		120		125
Lys Pro Tyr Val Asp His Gln Gly Leu Trp Ile Asp Leu Glu Met Ser					
	130		135		140
Tyr Asn Gly Ser Phe Leu Met Thr Leu Glu Thr Lys Met Asn Leu Pro					
145		150		155	160
Lys Leu Gly Lys Glu Pro Leu Val Glu Ala Leu Lys Val Gly Glu Ile					
	165		170		175
Gly Lys Glu Gly Cys Arg Pro Arg Ala Phe Cys Leu Ala Asp Ser Asp					
	180		185		190
Glu Glu Ser Ser Ser Ala Gly Ser Ser Glu Glu Asp Asp Ala Pro Glu					
	195		200		205
Pro Ala Gly Glu Thr Asn Ser Ser Ser Gln Gly Glu Gly Tyr Val Gly					
	210		215		220
Gly His Arg Thr Ser Lys Ile Met Arg Phe Val Asp Lys Ile Thr Lys					
225		230		235	240
Ser Lys Tyr Phe Gln Lys Ala Thr Glu Thr Glu Phe Ile Lys Arg Xaa					
	245		250		255
Ile Glu Glu Val Ser Asn Thr Pro Leu Leu Leu Thr Val Glu Val Gln					
	260		265		270
Glu Cys Arg Gly Thr Leu Ala Val Asn Ile Pro Pro Pro Pro Thr Asp					
	275		280		285
Arg Val Trp Tyr Gly Phe Arg Lys Pro Pro His Val Glu Leu Lys Ala					
	290		295		300
Arg Pro Lys Leu Gly Glu Arg Glu Val Thr Leu Val His Val Thr Asp					
305		310		315	320
Trp Ile Glu Lys Lys Leu Glu Gln Glu Phe Gln Lys Val Phe Val Met					
	325		330		335
Pro Asn Met Asp Asp Val Tyr Ile Thr Ile Met His Ser Ala Met Asp					
	340		345		350
Pro Arg Ser Thr Ser Cys Leu Leu Lys Asp Pro Pro Val Glu Ala Ala					
	355		360		365
Asp Arg Pro					
370					

&lt;210&gt; 4331

&lt;211&gt; 1355

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4331

gaaaaatatt ttaaccataa ggctcttcag cttcttcact gtttccctct ggacatacga

60

ttaaagatg gcagtttatt ttggcagtca ccaaagaggc caccctctcc aataaaattt

120

gatttaaag agcctttgca cctcagtttc cttcagaatg ctgcaaaaact atatgctaca

180

gtatattgta ttccatttgc agaagaggac ttatcagcag atgccctctt gaatattctt  
 240  
 tcagaagtaa agattcagga attcaagcct tccaataagg ttgttcaaac agatgaaact  
 300  
 gcaaggaaac cagaccatgt tcctattagc agtgaagatg agaggaaatgc aattttccaa  
 360  
 ctagaaaagg ctattttatc taatgaagcc accaaaagtg accttcagat ggcagtgtct  
 420  
 tcatttgaaa aagatgatga tcataatgga cacatagatt tcatcacagc tgcatacaat  
 480  
 cttcgtgcc aaatgtacag cattgaacca gctgaccgtt tcaaaacaaa gcgcatagct  
 540  
 ggtaaaatta tacctgctat agcaacaacc actgctacag tttctggctt ggttgccttg  
 600  
 gagatgatca aagtaactgg tggctatcca tttgaagctt acaaaaattg ttttcttaac  
 660  
 ttagccattc caattgtagt atttacagag acaactgaag taaggaaaac taaaatcaga  
 720  
 aatggaatat catttacaat ttgggatcga tggaccgtac atggaaaaga agatttcacc  
 780  
 ctcttggtt tcataaatgc agtcaaagag aagtatggaa ttgagccaac aatggtggta  
 840  
 caggagtgca aaatgcttta tgttcctgta atgcctggtc atgcaaaaag attgaagtta  
 900  
 acaatgcata aacttgtaaa acctactact gaaaagaaat atgtggatct tactgtgtca  
 960  
 tttgtccag acattgatgg agatgaagat ttgccgggac ctccagtaag atactacttc  
 1020  
 agtcatgaca ctgattaata caagttgtct taacgttact ccaggaccac ttgattttgg  
 1080  
 aaagagtgc cttaattcag aagctaaaga aaatcagttc ataatactat ggatttctct  
 1140  
 ttcattaagc cttaatttta agggaaacat cagtaagaaa ctgcactgaa gaattataaa  
 1200  
 acattttggg gcatagcata cacttgtcta acggttcaca cgtggctatg atcacaagca  
 1260  
 actttgaact ggaatgctat ttataaaagt tttgtgtatt aatctgtgta ttaatctctc  
 1320  
 tggataaaaa gaaggaaaaa atatgtatga ccggt  
 1355

&lt;210&gt; 4332

&lt;211&gt; 345

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4332

Glu Lys Tyr Phe Asn His Lys Ala Leu Gln Leu Leu His Cys Phe Pro  
 1 5 10 15  
 Leu Asp Ile Arg Leu Lys Asp Gly Ser Leu Phe Trp Gln Ser Pro Lys  
 20 25 30  
 Arg Pro Pro Ser Pro Ile Lys Phe Asp Leu Asn Glu Pro Leu His Leu  
 35 40 45  
 Ser Phe Leu Gln Asn Ala Ala Lys Leu Tyr Ala Thr Val Tyr Cys Ile

50	55	60
Pro Phe Ala Glu Glu Asp Leu Ser Ala Asp Ala Leu Leu Asn Ile Leu		
65	70	75
Ser Glu Val Lys Ile Gln Glu Phe Lys Pro Ser Asn Lys Val Val Gln		80
	85	90
Thr Asp Glu Thr Ala Arg Lys Pro Asp His Val Pro Ile Ser Ser Glu		95
	100	105
Asp Glu Arg Asn Ala Ile Phe Gln Leu Glu Lys Ala Ile Leu Ser Asn		110
	115	120
Glu Ala Thr Lys Ser Asp Leu Gln Met Ala Val Leu Ser Phe Glu Lys		125
	130	135
Asp Asp Asp His Asn Gly His Ile Asp Phe Ile Thr Ala Ala Ser Asn		140
145	150	155
Leu Arg Ala Lys Met Tyr Ser Ile Glu Pro Ala Asp Arg Phe Lys Thr		160
	165	170
Lys Arg Ile Ala Gly Lys Ile Ile Pro Ala Ile Ala Thr Thr Thr Ala		175
	180	185
Thr Val Ser Gly Leu Val Ala Leu Glu Met Ile Lys Val Thr Gly Gly		190
	195	200
Tyr Pro Phe Glu Ala Tyr Lys Asn Cys Phe Leu Asn Leu Ala Ile Pro		205
	210	215
Ile Val Val Phe Thr Glu Thr Thr Glu Val Arg Lys Thr Lys Ile Arg		220
225	230	235
Asn Gly Ile Ser Phe Thr Ile Trp Asp Arg Trp Thr Val His Gly Lys		240
	245	250
Glu Asp Phe Thr Leu Leu Asp Phe Ile Asn Ala Val Lys Glu Lys Tyr		255
	260	265
Gly Ile Glu Pro Thr Met Val Val Gln Gly Val Lys Met Leu Tyr Val		270
	275	280
Pro Val Met Pro Gly His Ala Lys Arg Leu Lys Leu Thr Met His Lys		285
	290	295
Leu Val Lys Pro Thr Thr Glu Lys Lys Tyr Val Asp Leu Thr Val Ser		300
305	310	315
Phe Ala Pro Asp Ile Asp Gly Asp Glu Asp Leu Pro Gly Pro Pro Val		320
	325	330
Arg Tyr Tyr Phe Ser His Asp Thr Asp		335
	340	345

&lt;210&gt; 4333

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4333

cggccgcagc gccgtctgct cagcgcccggt gtcaatagga gccagtcctt cgcaggcgctc  
60

ctcggcagcc acgagcgggg gccaggaggt ttcccggtct tcagcccgcc ggggccccca  
120

cggaagcccc ccgcgctctc ccgagtgtcc aggatgtttt ccgtgggtca cccagccgcc  
180

aaggtgccgc agcccgagcg gctggacctg gtgtacacgg cgctgaagcg gggcctgacg  
240

gcctacttgg aagtgcacca gcaggagcaa gagaaactcc aggggcagat aagggagtc  
300

aagaggaatt cccgcttggg cttcctgtat gatctggaca agcaagtcaa gtccattgaa  
360  
cgcttccctgc gacgactgga gttccatgcc agcaagatcg atgagctgta tgaggcātac  
420  
tgtgtccagc ggcgtctccg ggatggtgcc tacaacatgg tccgtgccta caccactggg  
480  
tccccgggaa gccgagaggc ccgggacagc ctggcagagg ccactcgggg gcatcgcgag  
540  
tacacggagg taggggatgg gggcccatga agcagaggca cagggtgtgg cagggctagt  
600  
ggctggccct tgacccctc ctgtccctgc ccctccctcc caagcatgtg tctgctggag  
660  
agcgagctgg aggcacagct gggcgagttt catctccgaa tgaaagggct ggctggcttc  
720  
gccaggtgt gtgtaggcga tcagtatgag atctgcatga aatatgggag tcagcgctgg  
780  
aaactacggg gccgaattga gggtagtgga aagcaggtgt gggacagtga agaaaccatc  
840  
tttctccctc tactcacgga atttctgtct attaaggtga cagaactgaa gggcctggcc  
900  
aaccatgtgg ttgtgggcag tgtctcctgt gagaccaagg acctgtttgc cgccctgccc  
960  
caggttgtgg ctgtggatat caatgacctt ggtaccatca agctcagcct ggaagtcaca  
1020  
tggagccctc tcgacaagga tgaccagccc tcagctgctt cttctgtcaa caaggcctcc  
1080  
acagtcacca agcgcttctc cacctatagc cagagcccac cggacacacc ctcaactcgg  
1140  
gaacaggctt tctataacat gctgcgacgg caggaggagc tggagaatgg gacagcatgg  
1200  
tcctgtcat ctgaatcttc agacgactca tccagcccac agctctcagg cactgcccgc  
1260  
cactcaccag cccctagg  
1278

&lt;210&gt; 4334

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4334

Arg	Pro	Gln	Arg	Arg	Leu	Leu	Ser	Ala	Arg	Val	Asn	Arg	Ser	Gln	Ser
1				5					10					15	
Phe	Ala	Gly	Val	Leu	Gly	Ser	His	Glu	Arg	Gly	Pro	Arg	Ser	Phe	Pro
		20						25					30		
Val	Phe	Ser	Pro	Pro	Gly	Pro	Pro	Arg	Lys	Pro	Pro	Ala	Leu	Ser	Arg
		35					40					45			
Val	Ser	Arg	Met	Phe	Ser	Val	Ala	His	Pro	Ala	Ala	Lys	Val	Pro	Gln
		50				55					60				
Pro	Glu	Arg	Leu	Asp	Leu	Val	Tyr	Thr	Ala	Leu	Lys	Arg	Gly	Leu	Thr
65				70					75					80	
Ala	Tyr	Leu	Glu	Val	His	Gln	Gln	Glu	Gln	Glu	Lys	Leu	Gln	Gly	Gln
			85					90					95		
Ile	Arg	Glu	Ser	Lys	Arg	Asn	Ser	Arg	Leu	Gly	Phe	Leu	Tyr	Asp	Leu

100	105	110
Asp Lys Gln Val Lys Ser Ile Glu Arg Phe Leu Arg Arg Leu Glu Phe		
115	120	125
His Ala Ser Lys Ile Asp Glu Leu Tyr Glu Ala Tyr Cys Val Gln Arg		
130	135	140
Arg Leu Arg Asp Gly Ala Tyr Asn Met Val Arg Ala Tyr Thr Thr Gly		
145	150	155
Ser Pro Gly Ser Arg Glu Ala Arg Asp Ser Leu Ala Glu Ala Thr Arg		
165	170	175
Gly His Arg Glu Tyr Thr Glu Val Gly Asp Gly Gly Pro		
180	185	

&lt;210&gt; 4335

&lt;211&gt; 1211

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4335

cacaacctgg acaagcgcag tgctcactag tgggagagga agggccaaga tctggctggg  
60  
gatggggagg agtgggtccc ccacttaaa acatttgtgc cctctgtatc cccattccag  
120  
ctggccttgg gtgcggcact cgtgaatgta cagatcccc tgctcctggg ccagctggta  
180  
gaggtcgtgg ccaagtacac aaggggaccac gtagggagtt tcatgactga gtctcagaat  
240  
ctcagacccc acctgcttat cctctatggt gtccagggac tgctgacctt cgggtacctg  
300  
gtgctgctgt cccacgttgg cgagcgcatt gctgtggaca tgcggagggc cctcttcagc  
360  
tccctgctcc gacaagacat caccttcttt gacgccaata agacagggca gctggtgagc  
420  
cgcttgacaa ctgacgtgca ggagtttaag tcatccttca agcttgtcat ctcccagggg  
480  
ctgcgaagct gcacccaggt ggcaggctgc ctgggtgtccc tgtccatgct gtcgacacgc  
540  
ctcacgctgc tgctgatggt ggccacacca gccctgatgg gagggggac cctgatgggc  
600  
tcaggcctcc gaaaattgtc tcgccagtgt caggagcaga tcgccagggc aatgggcgta  
660  
gcagacgagg ccctgggcaa tgtgcggact gtgcgtgcct tcgccatgga gcaacgggaa  
720  
gaggagcgct atggggcaga gctggaagcc tgccgctgcc gggcagagga gctgggcccgc  
780  
ggcatcgct tgttccaagg gctttccaac atgccttca actgcatggt cttgggtacc  
840  
ctatttattg ggggctccct tgtggccgga cagcagctga cagggggaga cctcatgtcc  
900  
ttcctggtgg cctcccagac agtgcaaagc ttctccgtg ttgcaccctg tccgaattcc  
960  
cttccgctgc aggtgtgac actccatgca tgggaaggacc atccttgaca ggctgtgtga  
1020  
gctgcccttc cccatgcctg ccacttccag ggatgacaag ctgaccctg tccccacaca  
1080



ccccaccctt atagcttatt gctttgcgtt ggtccaaaac caccgcgtca gctgagcctc  
 1140  
 tgggatgacc agagctgata accagacagc tcaaggcggg cctcccccca gaggctggag  
 1200  
 tgtgctcgcg a  
 1211

<210> 4336

<211> 325

<212> PRT

<213> Homo sapiens

<400> 4336

Trp	Glu	Arg	Lys	Gly	Gln	Asp	Leu	Ala	Gly	Asp	Gly	Glu	Glu	Trp	Leu
1				5					10					15	
Pro	Pro	Leu	Lys	Thr	Phe	Val	Pro	Ser	Val	Ser	Pro	Phe	Gln	Leu	Ala
			20					25					30		
Leu	Gly	Ala	Ala	Leu	Val	Asn	Val	Gln	Ile	Pro	Leu	Leu	Gly	Gln	
		35					40					45			
Leu	Val	Glu	Val	Val	Ala	Lys	Tyr	Thr	Arg	Asp	His	Val	Gly	Ser	Phe
	50					55				60					
Met	Thr	Glu	Ser	Gln	Asn	Leu	Ser	Thr	His	Leu	Leu	Ile	Leu	Tyr	Gly
65					70					75					80
Val	Gln	Gly	Leu	Leu	Thr	Phe	Gly	Tyr	Leu	Val	Leu	Leu	Ser	His	Val
			85						90					95	
Gly	Glu	Arg	Met	Ala	Val	Asp	Met	Arg	Arg	Ala	Leu	Phe	Ser	Ser	Leu
			100					105					110		
Leu	Arg	Gln	Asp	Ile	Thr	Phe	Phe	Asp	Ala	Asn	Lys	Thr	Gly	Gln	Leu
		115					120					125			
Val	Ser	Arg	Leu	Thr	Thr	Asp	Val	Gln	Glu	Phe	Lys	Ser	Ser	Phe	Lys
	130				135						140				
Leu	Val	Ile	Ser	Gln	Gly	Leu	Arg	Ser	Cys	Thr	Gln	Val	Ala	Gly	Cys
145					150					155					160
Leu	Val	Ser	Leu	Ser	Met	Leu	Ser	Thr	Arg	Leu	Thr	Leu	Leu	Leu	Met
			165						170					175	
Val	Ala	Thr	Pro	Ala	Leu	Met	Gly	Val	Gly	Thr	Leu	Met	Gly	Ser	Gly
		180					185						190		
Leu	Arg	Lys	Leu	Ser	Arg	Gln	Cys	Gln	Glu	Gln	Ile	Ala	Arg	Ala	Met
		195					200					205			
Gly	Val	Ala	Asp	Glu	Ala	Leu	Gly	Asn	Val	Arg	Thr	Val	Arg	Ala	Phe
	210					215					220				
Ala	Met	Glu	Gln	Arg	Glu	Glu	Glu	Arg	Tyr	Gly	Ala	Glu	Leu	Glu	Ala
225					230					235					240
Cys	Arg	Cys	Arg	Ala	Glu	Glu	Leu	Gly	Arg	Gly	Ile	Ala	Leu	Phe	Gln
			245						250					255	
Gly	Leu	Ser	Asn	Ile	Ala	Phe	Asn	Cys	Met	Val	Leu	Gly	Thr	Leu	Phe
		260					265						270		
Ile	Gly	Gly	Ser	Leu	Val	Ala	Gly	Gln	Gln	Leu	Thr	Gly	Gly	Asp	Leu
	275						280						285		
Met	Ser	Phe	Leu	Val	Ala	Ser	Gln	Thr	Val	Gln	Ser	Phe	Leu	Arg	Val
	290					295						300			
Ala	Pro	Cys	Pro	Asn	Ser	Leu	Pro	Leu	Gln	Ala	Val	Thr	Leu	His	Ala
305					310					315					320
Trp	Lys	Asp	His	Pro											

325

&lt;210&gt; 4337

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4337

tctattatgt tgtcctgatt acatatcagc aaaatgtttt tctggggcat tgtgcataaa  
60  
acaaaggaga aaacaacatc tctagccggc cagcgtgcct gtccctccct cccgcagagg  
120  
cctggggaggc tgaggggtgag gaaggccagc tgtgctggct gcagagggct ttgctgtttc  
180  
tccacagagc agcaggtcgc cccttccctt ctccctccct ccacctcacc tccatgggct  
240  
ccactggatg ggaaccatgt gcttgttctc cccacccta gactgggatc tcctggggca  
300  
gaagaggctt cccaagtggc acagacagag ccaggctgac tgaatgtgag attcatgaat  
360  
gaacagtgat accaggcata gccctgccct ttagcatcct gagggccacg tggagttttc  
420  
tgcaacactg cccgccgtgt tccagcatct gccttcact t  
461

&lt;210&gt; 4338

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4338

Met	Asn	Leu	Thr	Phe	Ser	Gln	Pro	Gly	Ser	Val	Cys	Ala	Thr	Trp	Glu
1				5					10					15	
Ala	Ser	Ser	Ala	Pro	Gly	Asp	Pro	Ser	Leu	Gly	Val	Gly	Arg	Thr	Ser
			20				25						30		
Thr	Trp	Phe	Pro	Ser	Ser	Gly	Ala	His	Gly	Gly	Glu	Val	Glu	Gly	Gly
		35				40					45				
Arg	Arg	Glu	Gly	Ala	Thr	Cys	Cys	Ser	Val	Glu	Lys	Gln	Gln	Ser	Pro
	50				55					60					
Leu	Gln	Pro	Ala	Gln	Leu	Ala	Phe	Leu	Thr	Leu	Ser	Leu	Pro	Gly	Leu
65				70					75				80		
Cys	Gly	Arg	Glu	Gly	Gln	Ala	Arg	Trp	Pro	Ala	Arg	Asp	Val	Val	Phe
			85				90				95				
Ser	Phe	Val	Leu	Cys	Thr	Met	Pro	Gln	Lys	Asn	Ile	Leu	Leu	Ile	Cys
		100					105					110			
Asn	Gln	Asp	Asn	Ile	Ile										
		115													

&lt;210&gt; 4339

&lt;211&gt; 5269

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4339

nnagccatgc ccaagaaatt tacgggtggtg cccgtggagg ctcacgccga cggcggcggg  
60  
gacgagactg ccgagcggac ggaggctccg ggcacccccg agggccccga gcccgagcgc  
120  
cccagccccg gagatggaaa tccaagagaa aacagcccat tcctcaacaa tgcgaggtg  
180  
gaacaagaga gcttctttga agggaagaac atggcacttt tcgaggagga gatggacagt  
240  
aaccctatgg tgcctcgcct gctcaacaag ctggccaact acaccaacct gagccagggc  
300  
gtgggtggagc acgaggagga cgaaggagagc cggcggcggg aggccaaaggc tccgcgcagc  
360  
ggcaccttca tcggcgctcta cctgccgtgc ctgcagaaca tcctgggcgt catcctcttc  
420  
ctgcgcctga cgtggatcgt ggggggtggct ggtgtcctgg agtccttctt catcgtggcc  
480  
atgtgctgca catgtacaat gctgaccgcc atttccatga gtgcgatcgc taccaacggc  
540  
gtgggtcccag ctggcgggtc ctactacatg atatcgcgct cgctgggacc cgagtgttga  
600  
ggcgctgtcg gcctctgctt ctacctgggc acgacgtttg cagggggccat gtatatattt  
660  
gggaccatcg agatttttct gacgtacatc tccccgggtg cggccatctt ccaggcggag  
720  
gctgcaggtg gcgaggcggc cgccatgctg cacaacatgc gtgtgtacgg cacgtgcacg  
780  
ctcgtgctca tggccctggc ggtcttcgtg ggcgtcaagt atgtcaacaa gctggcgctg  
840  
gtcttctctg cctgcgtcgt gctgtccatc ctggccatct atgccggcgt catcaagtct  
900  
gccttcgacc ccccgacat cccggtctgc ctctgggga accgcacgct gtcacggcgc  
960  
agcttcgatg cctgcgtcaa ggcctacggc atccacaaca actcagccac ctccgcgctc  
1020  
tggggcctct tctgcaacgg ctcccagccc agcgccgctt gtgacgagta cttcatccag  
1080  
aacaacgtca ccgaaatcca gggcatcccc ggcgcggcca gtgggtgtctt cctggagaac  
1140  
ctgtggagta cgtacgcgca cgcggggggc tttgtggaga agaaagggtg gccctcgggtg  
1200  
cccgtggcag aggagagccg tgccagcgca ctgccctacg tgctcaccga catcgcggcc  
1260  
tccttcaccc tgctggttgg catctacttc ccttcctgta ccggtatcat ggcgggttca  
1320  
aaccgggtccg gggacctcaa ggatgcacag aagtccatcc ccacggggac catcctggcc  
1380  
atagtgaaga cgtctttcat ctatctctcc tgcattgtgc tgtttggggc ctgcattgaa  
1440  
ggcgtgggtc tacgagataa gttcggggag gccctgcagg ggaacctggc catcggcagc  
1500  
ctggcctggc cctccccctg ggtcatcgtc atcggtcct tcttctccac ctgcgggtgc  
1560  
ggcctgcaga cctcacggg ggcaccgcgc ctactgcagg ccattgcccg tgacggcatc  
1620

gtcccttcc tgcaggtgtt tggccacggg aaggccaacg gggagcccac gtgggcgctg  
1680  
ctgctgacag tcctcatctg cgagactggc atcctcatcg cctctctgga cagcgtggcc  
1740  
ccgatcctct ccatgttctt cctcatgtgc tacctgttcg tgaacctggc ctgcgccgtg  
1800  
cagaccctgc tacgtacccc caactggcgt ccacgcctca agttctacca ctggaccctg  
1860  
tcctttctgg gtatgagcct gtgcctggcg ctgatgttca tctgctcctg gtactacgcg  
1920  
ctgtccgcca tgctcatcgc tggctgcata tacaagtaca tcgagtaccg cggggccgag  
1980  
aaggagtggg gcgatggcat ccgtggccta tcctgaacg ccgcccgcta cgccctgctg  
2040  
cgcgtggagc acggtcccc ccacaccaag aactggaggc cccaggtgct ggtgatgctg  
2100  
aacctggacg cggagcaggc cgtgaagcac cccgcctgc tgccttcac gtcgcagctg  
2160  
aaggccggca agggcctgac catcgtgggc tcggtgctgg aggggacgta cctggacaag  
2220  
cacatggagg ctacgcgggc cgaggagaac atacggtccc taatgagcac agagaagacc  
2280  
aagggtctct gccagctggt ggtctcgctc agcctgcggg atggcatgtc ccacctgac  
2340  
cagtcggccg gcctgggcgg cctgaagcac aacacggtgc tcatggcctg gcccgcaccc  
2400  
tggaagcagg aggacaaccc cttctcctgg aagaactttg tagacaccgt ccgcgacacc  
2460  
accgcgcgc accaggctct gctggtggcc aagaacgtcg actcgtttcc gcaaaaccag  
2520  
gagcgcttcg gcgggggcca catcgacgtg tgggtggatcg tgcacgacgg cggcatgctc  
2580  
atgctgctgc ccttcctgct gcgccagcac aagggtgtgga ggaagtgccg gatgcgtatc  
2640  
ttcacctggg ccaggttga cgacaacagc atccagatga agaaggacct gcagatgttc  
2700  
ttgtatcact tgcgcatcag cgccgaggtg gaggtggtgg agatggttga aaacgacata  
2760  
tctgctttca cctacgagag gacactaatg atggagcaga ggtcgcatg gctgaagcag  
2820  
atgcagctgt ccaagaacga gcaggagcga gagggccagc tgatccacga caggaacacc  
2880  
gcgtcccaca ccgcggcggc agccaggacc caagcggcgc ctacgccaga caaggtgcag  
2940  
atgacctgga ccagggagaa gctgatcgct gagaagtaca ggagcagaga caccagccta  
3000  
tccggtttca aagacctctt cagcatgaag ccagaatggg gaaacctgga ccagtccaac  
3060  
gtcaggcgga tgacacggc tgtgaagctc aatggcgctg tcctcaacaa gtcccaggat  
3120  
gcgcagctgg tcctgctcaa catgccaggt cctcccaaaa accggcaggg agacgagaac  
3180  
tacatggagt ttcttgaagt cctgaccgag gggctgaaca gagtctcct ggtcaggggt  
3240

ggcgccggg aggtgatcac catctactcc taatgcccac cagcatcacg gcactctggg  
3300  
acaggcacgg aggacggcgt gggcagcctg ggcctgggct tggcccaggg aaacagacgg  
3360  
cagacacacc tgtccccag tgatgccgcc caagctgccc atggggcttc ctacggaagt  
3420  
ttctaggccc gtcacctagg gctctcctgt tcagccttaa caggctcagc aaatcagggc  
3480  
gtggctggac gatttccttg catctgaggg cagacgctgc taccggagtg acctggacgt  
3540  
ggccagatct tctcgcaggc cacaagaagc cagtgaagccc ttgccttggt ttctggaagt  
3600  
tcttttcctt ggctggattt acccagtggc taggttgcat ttctaccca tccagaacat  
3660  
tcttgaaga gcacccggag ctgaagctgt ccctgatgat gaagggtgaaa cgtcagccct  
3720  
ggccatggct ccgctcaggg ccccggtcac ctccagtgca ctctgttcct tgactgtcct  
3780  
tgtgtttctg tacctcaagg cactgaagct ggaggactct gtccatgccc gtgtcaccct  
3840  
cgtgtgggag cctctgggct cggcaggctc acatttcatg agctgaggcg tgggccaggg  
3900  
ccatctggaa agggaaactc gcttttccag aacgtgggtg atcatctgtc ggggtgtgtg  
3960  
tgaacacgtt cagttcatca gggcctacgc tccgggaagg ggccccagc tgtggctctg  
4020  
ccatgcggg ctgtgtttgc agctgtccga gtctccatcc accttagaa aaccagccac  
4080  
ttcttttcat aagcactgac agggcccagc ccacagccac aggtgcatc agtgcctcac  
4140  
gcaggcaaat gcaactgaaac ccaggggcac acgcgcgcag agtgaacagt gagttcccc  
4200  
gacagccac gacagccagg actgccctcc ccacccacc ccacccagg agcacggcac  
4260  
acagttcagc ctctgagctg gtcacacgt gccatcccca ccccggtgct ccagggaagg  
4320  
aggacacgga cccgacgtg gaggtcctca ggcagcagtg gcgcctgggtg tcaggtctgt  
4380  
ctggctgagt cccgggcgtc ccctgccatg gcctgtgcct tgcatggagg cggcgggtgg  
4440  
actgaagaga tagctttcaa gggccaaca ctttgactt cggctggctg tgagtttctg  
4500  
ctttgtaggt tgtggtcaca tttgcaggct gcgggcagtg gcaccgactt gggcctccct  
4560  
ttctatgtg catatttatt tatttaaaca cccagggag ttacgtggta acaaggttgt  
4620  
ccataaagag gttgcttcta tatactagag gccccagatg gccaggcctt gggctacgtc  
4680  
tggttgcac ggtctcccaa gggaaacag cccatcaaca aagttcaa at cggggcagag  
4740  
gctgcacttg tgccccaga tgtttctgag gagccagact agggctggca ttgctgtaga  
4800  
gtgacggctg ctgcccagag cgtgtccag acatcacagc ggggctcagc agttcccaca  
4860

gcctctgcct gccttggtta agcatgagtt aagcagcaaa acgtcctcc atgtctggat  
 4920  
 gggggccggca ggtcctgtgt cccctgcacc tggaggagag caggctagag gcacagcggc  
 4980  
 cacatggtgc tggctctgaa cgttggttgg tggctggaaa acagccctgc ttctgagggc  
 5040  
 cgctcagttc tgcacacgaa accacctcct gagggctcag ctctgcccc gccctgggct  
 5100  
 gcagcctctg cagcaagca ccaggcatcc tttgtgtgt caactccgtg taaccagtaa  
 5160  
 ctacagccat ttacaattga ctccgtttcc tttgttaggt ttccctgtct gtctgtgta  
 5220  
 gtagaaaaat aaaatcctat gaaatctgaa aaaaaaaaaa aaaaaaaaaa  
 5269

<210> 4340

<211> 1088

<212> PRT

<213> Homo sapiens

<400> 4340

Met	Pro	Thr	Asn	Phe	Thr	Val	Val	Pro	Val	Glu	Ala	His	Ala	Asp	Gly
1				5					10					15	
Gly	Gly	Asp	Glu	Thr	Ala	Glu	Arg	Thr	Thr	Glu	Ala	Pro	Gly	Thr	Pro
			20					25					30		
Gly	Pro	Glu	Pro	Glu	Arg	Pro	Ser	Pro	Gly	Asp	Gly	Asn	Pro	Arg	Glu
		35					40					45			
Asn	Ser	Pro	Phe	Leu	Asn	Asn	Val	Glu	Val	Glu	Gln	Glu	Ser	Phe	Phe
		50				55				60					
Glu	Gly	Lys	Asn	Met	Ala	Leu	Phe	Glu	Glu	Glu	Met	Asp	Ser	Asn	Pro
65					70					75				80	
Met	Val	Ser	Ser	Leu	Leu	Asn	Lys	Leu	Ala	Asn	Tyr	Thr	Asn	Leu	Ser
			85					90					95		
Gln	Gly	Val	Val	Glu	His	Glu	Glu	Asp	Glu	Glu	Ser	Arg	Arg	Arg	Glu
			100					105					110		
Ala	Lys	Ala	Pro	Arg	Met	Gly	Thr	Phe	Ile	Gly	Val	Tyr	Leu	Pro	Cys
		115				120						125			
Leu	Gln	Asn	Ile	Leu	Gly	Val	Ile	Leu	Phe	Leu	Arg	Leu	Thr	Trp	Ile
	130					135					140				
Val	Gly	Val	Ala	Gly	Val	Leu	Glu	Ser	Phe	Leu	Ile	Val	Ala	Met	Cys
145					150					155				160	
Cys	Thr	Cys	Thr	Met	Leu	Thr	Ala	Ile	Ser	Met	Ser	Ala	Ile	Ala	Thr
			165					170					175		
Asn	Gly	Val	Val	Pro	Ala	Gly	Gly	Ser	Tyr	Tyr	Met	Ile	Ser	Arg	Ser
		180					185					190			
Leu	Gly	Pro	Glu	Phe	Gly	Gly	Ala	Val	Gly	Leu	Cys	Phe	Tyr	Leu	Gly
		195					200					205			
Thr	Thr	Phe	Ala	Gly	Ala	Met	Tyr	Ile	Leu	Gly	Thr	Ile	Glu	Ile	Phe
	210					215					220				
Leu	Thr	Tyr	Ile	Ser	Pro	Gly	Ala	Ala	Ile	Phe	Gln	Ala	Glu	Ala	Ala
225					230					235				240	
Gly	Gly	Glu	Ala	Ala	Ala	Met	Leu	His	Asn	Met	Arg	Val	Tyr	Gly	Thr
			245					250					255		
Cys	Thr	Leu	Val	Leu	Met	Ala	Leu	Val	Val	Phe	Val	Gly	Val	Lys	Tyr

260						265						270					
Val	Asn	Lys	Leu	Ala	Leu	Val	Phe	Leu	Ala	Cys	Val	Val	Leu	Ser	Ile		
		275					280					285					
Leu	Ala	Ile	Tyr	Ala	Gly	Val	Ile	Lys	Ser	Ala	Phe	Asp	Pro	Pro	Asp		
		290					295					300					
Ile	Pro	Val	Cys	Leu	Leu	Gly	Asn	Arg	Thr	Leu	Ser	Arg	Arg	Ser	Phe		
305					310					315					320		
Asp	Ala	Cys	Val	Lys	Ala	Tyr	Gly	Ile	His	Asn	Asn	Ser	Ala	Thr	Ser		
				325					330						335		
Ala	Leu	Trp	Gly	Leu	Phe	Cys	Asn	Gly	Ser	Gln	Pro	Ser	Ala	Ala	Cys		
			340					345						350			
Asp	Glu	Tyr	Phe	Ile	Gln	Asn	Asn	Val	Thr	Glu	Ile	Gln	Gly	Ile	Pro		
		355					360					365					
Gly	Ala	Ala	Ser	Gly	Val	Phe	Leu	Glu	Asn	Leu	Trp	Ser	Thr	Tyr	Ala		
		370					375					380					
His	Ala	Gly	Ala	Phe	Val	Glu	Lys	Lys	Gly	Val	Pro	Ser	Val	Pro	Val		
385					390					395					400		
Ala	Glu	Glu	Ser	Arg	Ala	Ser	Ala	Leu	Pro	Tyr	Val	Leu	Thr	Asp	Ile		
				405					410						415		
Ala	Ala	Ser	Phe	Thr	Leu	Leu	Val	Gly	Ile	Tyr	Phe	Pro	Ser	Val	Thr		
			420					425						430			
Gly	Ile	Met	Ala	Gly	Ser	Asn	Arg	Ser	Gly	Asp	Leu	Lys	Asp	Ala	Gln		
		435					440					445					
Lys	Ser	Ile	Pro	Thr	Gly	Thr	Ile	Leu	Ala	Ile	Val	Thr	Thr	Ser	Phe		
	450						455					460					
Ile	Tyr	Leu	Ser	Cys	Ile	Val	Leu	Phe	Gly	Ala	Cys	Ile	Glu	Gly	Val		
465					470					475					480		
Val	Leu	Arg	Asp	Lys	Phe	Gly	Glu	Ala	Leu	Gln	Gly	Asn	Leu	Val	Ile		
				485				490							495		
Gly	Met	Leu	Ala	Trp	Pro	Ser	Pro	Trp	Val	Ile	Val	Ile	Gly	Ser	Phe		
			500					505					510				
Phe	Ser	Thr	Cys	Gly	Ala	Gly	Leu	Gln	Thr	Leu	Thr	Gly	Ala	Pro	Arg		
		515					520					525					
Leu	Leu	Gln	Ala	Ile	Ala	Arg	Asp	Gly	Ile	Val	Pro	Phe	Leu	Gln	Val		
	530						535					540					
Phe	Gly	His	Gly	Lys	Ala	Asn	Gly	Glu	Pro	Thr	Trp	Ala	Leu	Leu	Leu		
545				550					555						560		
Thr	Val	Leu	Ile	Cys	Glu	Thr	Gly	Ile	Leu	Ile	Ala	Ser	Leu	Asp	Ser		
				565				570						575			
Val	Ala	Pro	Ile	Leu	Ser	Met	Phe	Phe	Leu	Met	Cys	Tyr	Leu	Phe	Val		
			580				585						590				
Asn	Leu	Ala	Cys	Ala	Val	Gln	Thr	Leu	Leu	Arg	Thr	Pro	As				

690	695	700
Ala Val Lys His Pro Arg Leu Leu Ser Phe Thr Ser Gln Leu Lys Ala		
705	710	715
Gly Lys Gly Leu Thr Ile Val Gly Ser Val Leu Glu Gly Thr Tyr Leu		
	725	730
Asp Lys His Met Glu Ala Gln Arg Ala Glu Glu Asn Ile Arg Ser Leu		
	740	745
Met Ser Thr Glu Lys Thr Lys Gly Phe Cys Gln Leu Val Val Ser Ser		
	755	760
Ser Leu Arg Asp Gly Met Ser His Leu Ile Gln Ser Ala Gly Leu Gly		
	770	775
Gly Leu Lys His Asn Thr Val Leu Met Ala Trp Pro Ala Ser Trp Lys		
	785	790
Gln Glu Asp Asn Pro Phe Ser Trp Lys Asn Phe Val Asp Thr Val Arg		
	805	810
Asp Thr Thr Ala Ala His Gln Ala Leu Leu Val Ala Lys Asn Val Asp		
	820	825
Ser Phe Pro Gln Asn Gln Glu Arg Phe Gly Gly Gly His Ile Asp Val		
	835	840
Trp Trp Ile Val His Asp Gly Gly Met Leu Met Leu Leu Pro Phe Leu		
	850	855
Leu Arg Gln His Lys Val Trp Arg Lys Cys Arg Met Arg Ile Phe Thr		
	865	870
Val Ala Gln Val Asp Asp Asn Ser Ile Gln Met Lys Lys Asp Leu Gln		
	885	890
Met Phe Leu Tyr His Leu Arg Ile Ser Ala Glu Val Glu Val Val Glu		
	900	905
Met Val Glu Asn Asp Ile Ser Ala Phe Thr Tyr Glu Arg Thr Leu Met		
	915	920
Met Glu Gln Arg Ser Gln Met Leu Lys Gln Met Gln Leu Ser Lys Asn		
	930	935
Glu Gln Glu Arg Glu Ala Gln Leu Ile His Asp Arg Asn Thr Ala Ser		
	945	950
His Thr Ala Ala Ala Ala Arg Thr Gln Ala Pro Pro Thr Pro Asp Lys		
	965	970
Val Gln Met Thr Trp Thr Arg Glu Lys Leu Ile Ala Glu Lys Tyr Arg		
	980	985
Ser Arg Asp Thr Ser Leu Ser Gly Phe Lys Asp Leu Phe Ser Met Lys		
	995	1000
Pro Glu Trp Gly Asn Leu Asp Gln Ser Asn Val Arg Arg Met His Thr		
	1010	1015
Ala Val Lys Leu Asn Gly Val Val Leu Asn Lys Ser Gln Asp Ala Gln		
	1025	1030
Leu Val Leu Leu Asn Met Pro Gly Pro Pro Lys Asn Arg Gln Gly Asp		
	1045	1050
Glu Asn Tyr Met Glu Phe Leu Glu Val Leu Thr Glu Gly Leu Asn Arg		
	1060	1065
Val Leu Leu Val Arg Gly Gly Gly Arg Glu Val Ile Thr Ile Tyr Ser		
	1075	1080
		1085

&lt;210&gt; 4341

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



<400> 4341  
 agatctaagt agttgtttta tattgagaaa gcaacaatgt ttctcgaata agttgatgtt  
 60  
 gatttttaaat tataagcttt aaagaatttt ttttctagaa aaaggggatg gaaaaaaaaag  
 120  
 gacctgaggg agccatatgc atcaagtgag tgtttctcca taacagaata ttataagag  
 180  
 aacatgtata gtgccctctt ttgagtgatg ccgacagaca ccaagccctc cttttcacca  
 240  
 agtcccaggc ttgcattcca gcctcttgag ctctgccctc tctcaggtgg atctttgtgt  
 300  
 tggaccttac gtttcagcaa cctcaccatg gccacataac ccacaacctt ttaaaacagt  
 360  
 ttctttcata gcaatccctg tttctgccag acagatctaa aatgggagtt tctcactgtg  
 420  
 tttatctgat ctgcacactt tatatccagc tgttttggca cttttacgtt ttcttcacct  
 480  
 ttggttttgg ttgcaaatt cttacacctt ctctccaagc ggagggcaca ctgtggtcaa  
 540  
 aatcacttat tttattagga aaaagaggta actgttccaa agtgtagtgt cctttgttga  
 600  
 aggaggaggg atgtaagcat agatttggtc ttgtttctgg ctattctcag ctcaagccat  
 660  
 gtttaattca ttctttgtaa aagccttcaa ttg  
 693

<210> 4342  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 4342  
 Met Val Arg Leu Leu Lys Arg Lys Val Gln His Lys Asp Pro Pro Glu  
 1 5 10 15  
 Arg Gly Gln Ser Ser Arg Gly Trp Asn Ala Ser Leu Gly Leu Gly Glu  
 20 25 30  
 Lys Glu Gly Leu Val Ser Val Gly Ile Thr Gln Lys Arg Ala Leu Tyr  
 35 40 45  
 Met Phe Ser Tyr Lys Tyr Ser Val Met Glu Lys His Ser Leu Asp Ala  
 50 55 60  
 Tyr Gly Ser Leu Arg Ser Phe Phe Phe His Pro Leu Phe Leu Glu Lys  
 65 70 75 80  
 Lys Phe Phe Lys Ala Tyr Asn Leu Lys Ser Thr Ser Thr Tyr Ser Arg  
 85 90 95  
 Asn Ile Val Ala Phe Ser Ile  
 100

<210> 4343  
 <211> 499  
 <212> DNA  
 <213> Homo sapiens

<400> 4343

caattggaag gccgcgcctc aggaaaacag gatggtagtt gaatggcacc gagccgcccc  
 60  
 aggctgccgc cgtcacctcc tcagcggctc cgagtcgtgc gaggcagggg accctttgcc  
 120  
 ttcagaacag ggcgcccgcac gttggggcgcg tggacagagt cctccggcgg ccgcgcgcgt  
 180  
 gggccaggcg gagagaggcg gacggacttc aggggaggcc cgggccacgc cgcggaaact  
 240  
 acccgactcc ctggaggcgg ccaggaccga ccctgtcccc acaaaatgga gttccccgtg  
 300  
 tggcttcagc tcgcggcgcg ttcccagagc tcctcagtga tccggctttc ggattgttcg  
 360  
 cctttcatct catttgccgt tgtccaaatt ctaatttaaa actcatgtgt tacttgctgt  
 420  
 aaggttaaca aacgtacacc gcaaactgga taaagggata acttttatgt tgtgtatgtt  
 480  
 ttaccacaat aaaaataaa  
 499

<210> 4344

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4344

Met	Ala	Pro	Ser	Arg	Pro	Arg	Leu	Pro	Pro	Ser	Pro	Pro	Gln	Arg	Leu
1				5				10					15		
Arg	Val	Val	Arg	Gly	Arg	Gly	Pro	Phe	Ala	Phe	Arg	Thr	Gly	Arg	Pro
			20				25					30			
Thr	Leu	Gly	Ala	Trp	Thr	Glu	Ser	Ser	Gly	Gly	Arg	Ala	Ala	Gly	Pro
		35				40					45				
Gly	Gly	Glu	Arg	Arg	Thr	Asp	Phe	Arg	Gly	Gly	Pro	Gly	His	Ala	Ala
	50				55				60						
Glu	Thr	Thr	Arg	Leu	Pro	Gly	Gly	Gly	Gln	Asp	Arg	Pro	Cys	Pro	Asp
65				70					75					80	
Lys	Met	Glu	Phe	Pro	Val	Trp	Leu	Gln	Leu	Ala	Ala	Arg	Ser	Gln	Ser
			85				90						95		
Ser	Ser	Val	Ile	Arg	Leu	Ser	Asp	Cys	Ser	Pro	Phe	Ile	Ser	Phe	Ala
		100					105						110		
Val	Val	Gln	Ile	Leu	Ile										
		115													

<210> 4345

<211> 349

<212> DNA

<213> Homo sapiens

<400> 4345

gcgtctatcc cagactaccg gggccctaata ggagtgtgga cactgcttca gaaagggaga  
 60  
 agcgtagtg ctgccgacnc tgagcgagcc gagccaaccc tcacccacat gagcatcacc  
 120  
 cgtctgcatg agcagaagct ggtgcagcat gtggtgtctc agaactgtga cgggctccac  
 180

ctgaggagtg ggctgncgcg cacggccatc tccgagctcc acgggaacat gtacattgaa  
 240  
 ggagtacgtg cgggtgttcg atgtgacgga ggcactgcc ctccacagac accagacagg  
 300  
 ccggacctgc cacaagtgtg ggacccagct gcgggacacc attgtgcac  
 349

<210> 4346  
 <211> 116  
 <212> PRT  
 <213> Homo sapiens

<400> 4346  
 Ala Ser Ile Pro Asp Tyr Arg Gly Pro Asn Gly Val Trp Thr Leu Leu  
 1 5 10 15  
 Gln Lys Gly Arg Ser Val Ser Ala Ala Asp Xaa Glu Arg Ala Glu Pro  
 20 25 30  
 Thr Leu Thr His Met Ser Ile Thr Arg Leu His Glu Gln Lys Leu Val  
 35 40 45  
 Gln His Val Val Ser Gln Asn Cys Asp Gly Leu His Leu Arg Ser Gly  
 50 55 60  
 Leu Xaa Arg Thr Ala Ile Ser Glu Leu His Gly Asn Met Tyr Ile Glu  
 65 70 75 80  
 Gly Val Arg Ala Gly Val Arg Cys Asp Gly Ala His Cys Pro Pro Gln  
 85 90 95  
 Thr Pro Asp Arg Pro Asp Leu Pro Gln Val Trp Asp Pro Ala Ala Gly  
 100 105 110  
 His His Cys Ala  
 115

<210> 4347  
 <211> 353  
 <212> DNA  
 <213> Homo sapiens

<400> 4347  
 gcgcgctgc cgcgtctcgc aacaccggcc acacggcgac gcgccgcagg ggccggacagg  
 60  
 gcactaggag gaggcgattc aggctgagac tcctccggga tctcgacgcc ccgaccgccg  
 120  
 ccccggggct cgcgcgcagc ggggtccagct gcacaaagcc gtccgctccg tcccgcagag  
 180  
 gccaggcagt gcagaggcag gagccgccgt cgggtagcga gatcttcact gccgagccca  
 240  
 agcgcgcgcc cagggcgtgg agggcggccg ggcccaggcg gcagcgctgg gtgccccggt  
 300  
 ctctagcgtc taagggtagc agctttaaga gcggcccttc agggaaggga tcc  
 353

<210> 4348  
 <211> 72  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4348

Asp Ser Ser Gly Ile Ser Thr Pro Arg Pro Pro Pro Arg Gly Ser Arg  
 1 5 10 15  
 Ala Ala Gly Pro Ala Ala Gln Ser Arg Pro Leu Arg Pro Ala Glu Ala  
 20 25 30  
 Arg Gln Cys Arg Gly Arg Ser Arg Arg Arg Val Ala Arg Ser Ser Leu  
 35 40 45  
 Pro Ser Pro Ser Ala Arg Pro Gly Arg Gly Gly Arg Pro Gly Pro Gly  
 50 55 60  
 Gly Ser Ala Gly Cys Pro Gly Leu  
 65 70

&lt;210&gt; 4349

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4349

nttttttttt ttttgagata taaaaatctg tatttatatt acaatgacat aaggacacag  
 60  
 cacggccac acggtggaca ggtggccggg ggcccccttc cccctctagc gcacgcccc  
 120  
 ctacacggca ccaggccctc gtgtggcccc cgactctggc acggaacctg ccctagtggc  
 180  
 caacatggac ctggggccac cctgctggcc gagggtcagg gtcctctgtg caggcagtgg  
 240  
 ggaggggggtc ccaggttccc tgacagaggg aggcagggca cgggggagcc tgcctcaccc  
 300  
 agcggacagc acgggcccggg gcagacagag cagggaccct agggccacag accggtacag  
 360  
 ggttccacca cccggggaca caggcccaag caccgtgcca ctaagatggg gtctgcagag  
 420  
 gcaaagcctt gctgcagcct ctccactct gcgaggatgg cgggggtctg ctatgtggtt  
 480  
 tgcggggggtt atcctggtat gcgggagctg ccttccaata aggtgggga acccaagcct  
 540  
 gagtctgggt gctcagtggc cgagagcact ggtgtgggct gggagggcac acgcagaggc  
 600  
 tcaggagccc cgggctctgt tctgcttctg tctgctctct atagacacgg tgatggcctc  
 660  
 ttggtccctg cagcctccag tgatggcagc ctgggccctt gacagggagc agtgggaggt  
 720  
 tggagcatgt ggtgactcct agcacgggcc cccaccaggt gggcaacccc tcaccacct  
 780  
 gctgatggca gggaggggca gctgaacagc accccgggtg gctgagactg cctcccagtc  
 840  
 cacgtgggaa ccacggcctc aagagccaca ggctgagctg cggggagggt gggctgaggg  
 900  
 gccaccactg gtcaccgggt ggattctgct ggtcagagat gagagcagaa gcccttagct  
 960  
 gcctcaggca ctggaggggt gggcaggag ctggtgcttc aagaattgag ggcagggaca  
 1020  
 cgaccacctc agggccctgc agtgctggct ggggaagcaa gcttttacac acggccccgc  
 1080

ttgctcggag gtgccacggt gtttgaaatg aagcctgggg ggacagactc aggcaggcag  
 1140  
 gggaaagctcc tttctgggca cccctggacc ccagtggggc cggaaggaga tgcagacagg  
 1200  
 cctcctcaca accaccgcga acgcgttcgg atgcccctca gctccaggca ccatgcccc  
 1260  
 tacagcctgc agggcagggt ctgtgccaga gttgtttcca gggaccccct tccgccacag  
 1320  
 tgggcccccc atcctggggc gtctatgcgt acgactgaaa atagacacga attttcccc  
 1380  
 tgatatggga attggctaca gatgtaccag aggcacggca ggcactgcta tgggccagcc  
 1440  
 ccaaggacag aggacgtcag gaaggaaagg cgggtgcaag cctcctgggtg ccaggcctgc  
 1500  
 accaccagc gagcacagtc ttcattggct gccagtgtct gaaacctgga accctgcct  
 1560  
 aggccaggaa gcagggggct cgagtcagggt gacagggtgag aatccatctc tctagtgagc  
 1620  
 aagcaggccc ctgccagcca ctggggaggg caacactggg gaccagggtca cagccccctc  
 1680  
 gtgccacca caggggcctg gctgcatcgc ctccaggaag ccctggctgc cgggaggggc  
 1740  
 tgcccacagg agatgggagg acagcactag ctgggcaggc ctggggcacc ctgagccacg  
 1800  
 agggacatgc tgggtgggaag ggcaaggcct gacacaagac acaaggcaca ctttgacgac  
 1860  
 gtgacggagg gacaggcccc tgagacgctg ggtggctccc acccctcagc aaacaaggac  
 1920  
 gcaacaacag ctaggaaaat agaatacaaa aatctggtac aggaacacaga ggcggcacag  
 1980  
 aacctgcct gcaggctgta gggggcatgg tgccctggagc tgaggggcat ccgaacgcgt  
 2040

&lt;210&gt; 4350

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4350

Xaa	Phe	Phe	Phe	Leu	Arg	Tyr	Lys	Asn	Leu	Tyr	Leu	Tyr	Tyr	Asn	Asp
1				5				10						15	
Ile	Arg	Thr	Gln	His	Gly	Pro	His	Gly	Gly	Gln	Val	Ala	Gly	Gly	Pro
			20					25					30		
Phe	Pro	Pro	Leu	Ala	His	Ala	Pro	Leu	Thr	Gly	Thr	Arg	Pro	Ser	Cys
			35					40					45		
Gly	Pro	Arg	Leu	Trp	His	Gly	Thr	Cys	Pro	Ser	Ala	Gln	His	Gly	Pro
			50				55				60				
Gly	Ala	Thr	Leu	Leu	Ala	Glu	Gly	Gln	Gly	Pro	Leu	Cys	Arg	Gln	Trp
65					70					75				80	
Gly	Gly	Gly	Pro	Arg	Phe	Pro	Asp	Arg	Gly	Arg	Gln	Gly	Thr	Gly	Glu
				85					90					95	
Pro	Ala	Ser	Pro	Ser	Gly	Gln	His	Gly	Pro	Gly	Gln	Thr	Glu	Gln	Gly
			100					105						110	
Pro															

<210> 4351  
<211> 4703  
<212> DNA  
<213> Homo sapiens

<400> 4351  
nntttttttt tttttttttt tttttaaaga aataaattta ctttaatggt actttcaaaa  
60  
agactaatcc ataacaaatt aagttatact gtatttcctt tgctaccag aaccacaggg  
120  
ctggttggtca acacatattg aagaaatgta agcaaaatac agaaagtgat gatttttcaa  
180  
aggaagagaa gaaactcctt ttcaacaaac acttttatatc atttattaat gcagtataca  
240  
ttagatctaa aatctgcagt ttctaagcac accatgttta gatctttcag atccttctgc  
300  
agtttttaggt tatttctaca gaggtacctt taagtgaatg aataccacat tctgtaattc  
360  
ctgaaaatat agtacagagt gaaatgattt aaatataatt taggcacata ttgattatga  
420  
aaatagatta tctctcaata caatacttct ctgtcttggt aaaaataata aagcaaagaa  
480  
aataattcat ttctgaagtt gctttccttc acttgtaaag gtctgatctc ctcccactat  
540  
gcatatgtac cctttactgt taaggaaagc tttgcatatg tagatataga agaataagct  
600  
acgtaaatac taaagatatg tcattctccc aaaggagaca caggtgggtt tcaatgatcc  
660  
cttgectcat gttgatgagt ctgtagaatt cagaacccat ttggacacag ctaatatccc  
720  
tgctcttggg gtagaaaata aggacaccaa gtcattggta gggagggtaca ggcccttctc  
780  
ctgctgctgc agagagagaa tgactcaaga aaattgggct aaaatttggt taaaaaaaaa  
840  
aaaccacaaa aaaataagta aaagaatcac aggtgctgac tgattgataa ttacatcttg  
900  
gaccagccaa atgcctttat ttttacgtct atttttttgg tggctgtaat caaatgtgtg  
960  
tttaaaattc ctcatcctcc actgtagggg tctagctgca attatattac attgcctttt  
1020  
agcaggcaac tctaccatat tcatcctat aagctttgat tgcagtagct ctggatttag  
1080  
tatctatttc taagctggcc ctatgtaaac tatttggtat ttgaattaaa tgaatattaa  
1140  
tgatgcacct tgggtttttt ggttttgaag tatcttccta tgcttggtgct gactgtatga  
1200  
gaaaactagg ctaatagtgt aaatagatag aattgcttga tctgggtgtg agtggaaact  
1260  
gcctagaatg aaattctgag aaatgctcat ttgtaagtgt tgtagtata ggtaagttat  
1320  
tcctccatcc agagttacac tgtacctttg gaatgacagt gatgtacaat gatgtcttcc  
1380

tttccactct gtctcaatca gtaagaactg gatattactt taatttagct actgttctgt  
1440  
cctaaaaagt aaacattata aaaatgaacc tgaaaagagt cttagggagt ctgatctcac  
1500  
catattcata cgggtgtgaca ggtattttaa gaggggaggc atcactaaag ctatttataa  
1560  
acctgaacaa ccttttccaa gttttcataa agttttaaca atttaaatat ccatactgca  
1620  
tctaggaatt caataaatat aattgcatat gttgtgcttt ccataaatta aaatcctcaa  
1680  
atgcatttca aaccaagatg gtatttccac atcatgccta tttaaaagca aatataatag  
1740  
atactatgcc tggtcataaa accaggtaaa cccccctacc ccattcaaaa ggcagcaata  
1800  
tctagtttcc ctacatttat taaatgagtg cttttctgtt aaaaatcaga atatggaaaa  
1860  
aaagtcagtt ttttccctta tgcaccactc aaaacaagca taatcctcta aatgtttttt  
1920  
ttttaaattt ccttacagtg ttatttcttc tagacaactg agtgggtgga gaaagaaaa  
1980  
tgataaggaa aacattttca tcttttacat ctctctccag cccctaaaat tctcatctga  
2040  
cactttgtga catgtgtagt ggtgtcagca tctcttcaaa tatagctccc ttacagttgg  
2100  
acctctcag gttggcttct tgaagatcac acccagacag atcacaattc tgcaagatga  
2160  
aaacaatatt catgtaattc atgtggaaat ttcaggcctt atctatttct gtcagaatg  
2220  
atttctgggg cagattagga aaatgttctt atacaataaa actcagttaa tttccggaaa  
2280  
actgatgata caccacctta aattaagatg ttcttctatc tttatttgtt acctctagtt  
2340  
caggctgac accataaata tgtataaaca aagggttaaag aggaagcatg tcccttgctc  
2400  
ttgcatattt tataaggaga cattgaaaac aggggtcccc aacctctggg ccacagactg  
2460  
atactggtcc atggcctgtt aagaatcagg ccacacagca ggaggtcacc agtagatgaa  
2520  
gcttcatctg tatttacagc cagtcctgt atggctcaag ttacagcctg agtccacct  
2580  
cctgtcagat cagcaggggc attagattcg cacaggagcg tgaaccctat tgtgaactgc  
2640  
acatgtgagg gatctaggtg gggactcct catgagaatc taatccctga tgagctgtca  
2700  
ctgtctccaa cacaccaga tgggactgtc tagttgcaag aaaacaaact cagggtccc  
2760  
actgattcta cattatggtg agttatataa ttatttcatt atgtattaca atgtaatact  
2820  
agtagaaata aagtcacaa taaatgtaac gcgcttgaat catcccaaaa ccagcccccg  
2880  
actctgatct gtgaaaatat tttcttccac aaaaccagtc cctggtgcca aaaagggttg  
2940  
ggaccactga tttaaaatac agaatggatt ccaacataat aaatacacac acacacacac  
3000

acacacacaa acacaatttt ttttttgaaa cggagttttg ctcttggtgc ccaggctgga  
3060  
gtgcaanntc tcggctcact gcaacctcca cctccaggat tcgagctatt ctctgcctc  
3120  
agcttccaga gtagctgggg ttacaggcac tcaccaccac gcctggctaa tttttctatt  
3180  
tttagtagag acgggggttc accatgttg ccaggctggt ctcaaactcc taacctcaag  
3240  
tgattcgccc accttgccct cccaaaatgc tgggggttaca ggcatgagcc actgcgccctg  
3300  
gccccaaagt aataaatatt atcaaaacaa ttttactatg atccaagaac aacaacaaca  
3360  
aaaggaatga gatgggggga agactttttt tttaatctga aaagatttta cttaatcaaa  
3420  
ttgtgtaata gatttttcca ttccctagcc ctagtatatt tatagcaagg aactgccctt  
3480  
ctttttaag ccccaaagg acgtatataa tacagtgagt ttgacagatg tacacaacag  
3540  
tgtaaccacc gcaatttgaa gctatttctt aatttgtctt gagatcacgg agcaataaga  
3600  
tagagattcc acttaagtcc ctggatatga taggggacaa tgggttagaga gaaggggtgac  
3660  
taaacgtaac ctgttaggag aacaaatgtc agcagctctc ccctcaatag tcaacctgat  
3720  
cagtctttgc aatcagagag agggaggctt ttgctgctag gccacactga gtacacagta  
3780  
ctaaaaccaa ggaaaaaat ataatcttag gtgaaagtaa tgtaacaaac aataaataat  
3840  
tgtgctcgtg ataggattat acttaggcc attctttttg ccttgaagtt gaaaggggcc  
3900  
tgctactctg ctaccgagag ctatcaagat atctaggcaa aaatattatg aaaaaacatt  
3960  
aacagcaagc taaattttga cataccgttc tctgctatcc aatttatacc agatttcata  
4020  
gctaccagcc acatgtggct acttaaat taaatgaatta aaattaaata aaatttaaaa  
4080  
atcaatttct catttgcact agccaaatct caagcgctca atagctatat atgggtggtg  
4140  
gctactatac tgaacagcac agatatagaa catgtccctc ctgcacaaag tgctattgga  
4200  
tagtgctgat atagacctat caacagctat caagtctgct agctaaactg gcaaattaag  
4260  
aagacatata aatataattc tttgaaaaag atgaccaggc aaaattataa tctcaagctg  
4320  
aaaacaaaa aacatatggt tccaatttca aatagacttt tcctgaacct gatttcaaac  
4380  
ctggatatca tttaaatttc tcaagtagtt taagaagtaa tctagcccat ttaattctat  
4440  
tcggaattaa attttatgga aaatgcaata cattagataa cacatctatc aaacttattt  
4500  
acttgagaaa aactcaagga aaaggagaga aatgaaatca acttagactg aatgtcagat  
4560  
gagtcttcca atccagtttt accagccaac tactttgttt tgatttcaat aaattttgca  
4620



tgagatgctt agtaagtcta gagtaataaa aattcttaaa gtgttggtga actcacctct  
 4680  
 aaatcagttc ctgccagagt tgc  
 4703

<210> 4352  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 4352  
 Ile His Thr His Thr His Thr His Thr Asn Thr Ile Phe Phe Leu Lys  
 1 5 10 15  
 Arg Ser Phe Ala Leu Val Ala Gln Ala Gly Val Gln Xaa Leu Gly Ser  
 20 25 30  
 Leu Gln Pro Pro Pro Gly Phe Glu Leu Phe Ser Cys Leu Ser Phe  
 35 40 45  
 Gln Ser Ser Trp Gly Tyr Arg His Ser Pro Pro Arg Leu Ala Asn Phe  
 50 55 60  
 Ser Ile Phe Ser Arg Asp Gly Val Ser Pro Cys Trp Pro Gly Trp Ser  
 65 70 75 80  
 Gln Thr Pro Asn Leu Lys  
 85

<210> 4353  
 <211> 2471  
 <212> DNA  
 <213> Homo sapiens

<400> 4353  
 natggacttg gggctagctg cggcggggct ggaggaggcc agataacccat gtcagccaca  
 60  
 gttgtagatg cagttaatgc tgcaccccta tcgggggtcca aagaaatgag tttggaagaa  
 120  
 ccaaagaaga tgaccagaga ggactggaga aagaagaagg agctagaaga acagcgaaaa  
 180  
 ttgggcaatg ctctgcaga agttgatgaa gaaggaaaag acatcaaccc ccatattcct  
 240  
 cagtatattt cttcagtgcc atggtatatt gatccttcaa aaagacctac tttaaacac  
 300  
 cagagaccac aaccagaaaa acaaaagcag ttcagctcat ctggagaatg gtacaagagg  
 360  
 ggtgtaaaag agaattccat aattactaag taccgcaaag gagcatgtga aaattgtggg  
 420  
 gccatgacac aaaaaagaa agactgcttt gagagaccta ggcgagttgg agccaaattt  
 480  
 acaggctacta atatagctcc agatgaacat gtccagcctc aactgatgtt tgactatgat  
 540  
 gggaagaggg atcgggtgaa tggctacaat ccagaagaac acatgaaaat tgttgaagag  
 600  
 tatgccaaag ttgatttggc aaaacgaaca ttgaaagccc agaaactcca agaggaatta  
 660  
 gcctcaggaa aattagtggg acaggctaat tctccaaaac accagtgggg agaagaggaa  
 720

ccaaattctc agacggaaaa agatcataat agtgaagatg aggatgaaga taaatatgca  
780  
gatgatattg acatgcctgg acagaatttt gactccaaga gacgaattac tgtccggaat  
840  
ctcaggattc gagaagatat tgcaaaatat ttgaggaatt tagatccaaa ttctgcctac  
900  
tatgatccaa aaactagagc aatgagagag aatccttatg ccaatgcagg aaagaatcca  
960  
gatgaagtga gttatgctgg agataacttt gttagggtaca caggagatac catttcaatg  
1020  
gctcagacac agttgtttgc atgggaagcc tatgacaagg gatctgaagt gcatctacag  
1080  
gcagatccta caaagctaga gctgttgtat aagtccttca aagtcaaaaa agaagatttc  
1140  
aaagaacagc agaaagaaag catcctggaa aagtatggtg gccagaaca tttggatgcc  
1200  
cctccagctg aattgctttt agcccagact gaagactatg tggagtactc aagacatggg  
1260  
acagtcatca aaggacagga gcgggctgtt gcctgctcta agtatgagga ggatgtgaag  
1320  
atccacaatc acacacatat ctggggatcg tactggaaag aaggccgatg gggatacaaa  
1380  
tgctgtcact cttttttcaa gtattcctat tgtactggag aagctgggaa ggagattgtt  
1440  
aactctgagg agtgtattat aaatgagata actggggaag aatctgtgaa aaaacctcaa  
1500  
accctcatgg agctgcatca agaaaaactg aaagaggaaa agaagaagaa gaaaaagaaa  
1560  
aagaagaagc atcgaaagag cagttcagat agtgatgatg aagaaaagaa gcatgaaaaa  
1620  
ttgaaaaagg cactgaacgc agaggaggcc cgccttcttc atgtcaagga gaccatgcag  
1680  
attgatgaga ggaagcggcc ttacaatagc atgtatgaaa ctcgagaacc tactgaagag  
1740  
gaaatggagg catatagaat gaaacgtcag aggccagatg accccatggc ctcttttcctt  
1800  
ggacagtagc aactagtcag aagaccatcc aagatagatg cagctgatac attcttttca  
1860  
gcttcttatt gatgattgta gatagaaaaa tccttgttta ttcttcttgc tgccctggctt  
1920  
taataaatat ttcagatgcc tcacagtaag ttcactcctt tccatactga ggaaacaaga  
1980  
aaagaagaag aggcacatga agtgtgcttt tgggaataga atttaaaatt ggattaagat  
2040  
tttattttcca gtttttttta tttatttatt ttttttgaga cggagtcttg ctctgtcgcc  
2100  
caggctgaag tgcggtggcg cgatctcgcc tcaactgcaag ctccacctcc caggttcacg  
2160  
ccattctcct gcctcagcct ccctagtagt tggggactac agggcgcccg ccaccatgct  
2220  
cagctaattt tttgtatttt tagtaggaga cggtttcatc gtgttagcca gggatggctt  
2280  
cgatcttctt gaccttgta tccaccgcc ttcagcctcc caaagtgtg agattacagg  
2340

cgtagacaccc gcggcctggg cctntttttcc agtttttatg tgagtcacatgt taaaaaaggc  
 2400  
 cttgggttct tctaaccat taaggatgct tctttctcca atattttattt aaggtttcaa  
 2460  
 actttttattt t  
 2471

<210> 4354

<211> 586

<212> PRT

<213> Homo sapiens

<400> 4354

Met	Ser	Ala	Thr	Val	Val	Asp	Ala	Val	Asn	Ala	Ala	Pro	Leu	Ser	Gly
1				5					10					15	
Ser	Lys	Glu	Met	Ser	Leu	Glu	Glu	Pro	Lys	Lys	Met	Thr	Arg	Glu	Asp
			20					25					30		
Trp	Arg	Lys	Lys	Lys	Glu	Leu	Glu	Glu	Gln	Arg	Lys	Leu	Gly	Asn	Ala
		35					40						45		
Pro	Ala	Glu	Val	Asp	Glu	Glu	Gly	Lys	Asp	Ile	Asn	Pro	His	Ile	Pro
	50					55					60				
Gln	Tyr	Ile	Ser	Ser	Val	Pro	Trp	Tyr	Ile	Asp	Pro	Ser	Lys	Arg	Pro
65					70					75					80
Thr	Leu	Lys	His	Gln	Arg	Pro	Gln	Pro	Glu	Lys	Gln	Lys	Gln	Phe	Ser
				85					90					95	
Ser	Ser	Gly	Glu	Trp	Tyr	Lys	Arg	Gly	Val	Lys	Glu	Asn	Ser	Ile	Ile
		100						105					110		
Thr	Lys	Tyr	Arg	Lys	Gly	Ala	Cys	Glu	Asn	Cys	Gly	Ala	Met	Thr	His
		115					120					125			
Lys	Lys	Lys	Asp	Cys	Phe	Glu	Arg	Pro	Arg	Arg	Val	Gly	Ala	Lys	Phe
		130				135					140				
Thr	Gly	Thr	Asn	Ile	Ala	Pro	Asp	Glu	His	Val	Gln	Pro	Gln	Leu	Met
145					150					155				160	
Phe	Asp	Tyr	Asp	Gly	Lys	Arg	Asp	Arg	Trp	Asn	Gly	Tyr	Asn	Pro	Glu
			165						170					175	
Glu	His	Met	Lys	Ile	Val	Glu	Glu	Tyr	Ala	Lys	Val	Asp	Leu	Ala	Lys
		180						185					190		
Arg	Thr	Leu	Lys	Ala	Gln	Lys	Leu	Gln	Glu	Glu	Leu	Ala	Ser	Gly	Lys
		195					200					205			
Leu	Val	Glu	Gln	Ala	Asn	Ser	Pro	Lys	His	Gln	Trp	Gly	Glu	Glu	Glu
	210					215					220				
Pro	Asn	Ser	Gln	Thr	Glu	Lys	Asp	His	Asn	Ser	Glu	Asp	Glu	Asp	Glu
225					230					235				240	
Asp	Lys	Tyr	Ala	Asp	Asp	Ile	Asp	Met	Pro	Gly	Gln	Asn	Phe	Asp	Ser
			245						250					255	
Lys	Arg	Arg	Ile	Thr	Val	Arg	Asn	Leu	Arg	Ile	Arg	Glu	Asp	Ile	Ala
		260						265					270		
Lys	Tyr	Leu	Arg	Asn	Leu	Asp	Pro	Asn	Ser	Ala	Tyr	Tyr	Asp	Pro	Lys
	275						280						285		
Thr	Arg	Ala	Met	Arg	Glu	Asn	Pro	Tyr	Ala	Asn	Ala	Gly	Lys	Asn	Pro
	290					295					300				
Asp	Glu	Val	Ser	Tyr	Ala	Gly	Asp	Asn	Phe	Val	Arg	Tyr	Thr	Gly	Asp
305					310					315				320	
Thr	Ile	Ser	Met	Ala	Gln	Thr	Gln	Leu	Phe	Ala	Trp	Glu	Ala	Tyr	Asp

325 330 335  
 Lys Gly Ser Glu Val His Leu Gln Ala Asp Pro Thr Lys Leu Glu Leu  
 340 345 350  
 Leu Tyr Lys Ser Phe Lys Val Lys Lys Glu Asp Phe Lys Glu Gln Gln  
 355 360 365  
 Lys Glu Ser Ile Leu Glu Lys Tyr Gly Gly Gln Glu His Leu Asp Ala  
 370 375 380  
 Pro Pro Ala Glu Leu Leu Leu Ala Gln Thr Glu Asp Tyr Val Glu Tyr  
 385 390 395 400  
 Ser Arg His Gly Thr Val Ile Lys Gly Gln Glu Arg Ala Val Ala Cys  
 405 410 415  
 Ser Lys Tyr Glu Glu Asp Val Lys Ile His Asn His Thr His Ile Trp  
 420 425 430  
 Gly Ser Tyr Trp Lys Glu Gly Arg Trp Gly Tyr Lys Cys Cys His Ser  
 435 440 445  
 Phe Phe Lys Tyr Ser Tyr Cys Thr Gly Glu Ala Gly Lys Glu Ile Val  
 450 455 460  
 Asn Ser Glu Glu Cys Ile Ile Asn Glu Ile Thr Gly Glu Glu Ser Val  
 465 470 475 480  
 Lys Lys Pro Gln Thr Leu Met Glu Leu His Gln Glu Lys Leu Lys Glu  
 485 490 495  
 Glu Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys His Arg Lys Ser Ser  
 500 505 510  
 Ser Asp Ser Asp Asp Glu Glu Lys Lys His Glu Lys Leu Lys Lys Ala  
 515 520 525  
 Leu Asn Ala Glu Glu Ala Arg Leu Leu His Val Lys Glu Thr Met Gln  
 530 535 540  
 Ile Asp Glu Arg Lys Arg Pro Tyr Asn Ser Met Tyr Glu Thr Arg Glu  
 545 550 555 560  
 Pro Thr Glu Glu Glu Met Glu Ala Tyr Arg Met Lys Arg Gln Arg Pro  
 565 570 575  
 Asp Asp Pro Met Ala Ser Phe Leu Gly Gln  
 580 585

&lt;210&gt; 4355

&lt;211&gt; 1741

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4355

nggccggtag ctgttgctgt tgggggaccc cctcattcct gccgctgccg tccctgctgc  
 60  
 ctcatggcgg ccacggaggt tcacctgggc tgcacctcag cctgtgtggc cgtctataag  
 120  
 gatggccggg ctggtgtggt tgcaaatgat gccggtgacc gagttactcc agctgttgtt  
 180  
 gcttactcag aaaatgaaga gattgttggg ttggcagcaa aacaaagtag aataagaaat  
 240  
 atttcaaata cagtaatgaa agtaaagcag atcctgggca gaagctccag tgatccacaa  
 300  
 gctcagaaat acatcgcgga aagtaaagt ttagtcattg aaaaaaatgg gaaattacga  
 360  
 tatgaaatag atactggaga agaaacaaaa tttgttaacc cagaagatgt tgccagactg  
 420

atatttagta aaatgaaaga aacggcacat tctgtattgg gctcagatgc aaatgatgta  
480  
gttattactg tcccgtttga ttttggagaa aagcaaaaaa atgcccttgg agaagcagct  
540  
agagctgctg gatttaatgt tttgcgatta attcacgaac cgtctgcagc tcttcttgct  
600  
tatggaattg gacaagactc ccctactgga aaaagcaata ttttgggtgt taagcttgga  
660  
ggaacatcct tatctctcag cgtcatggaa gttaacagtg gaatatatcg ggttctttca  
720  
acaaacactg atgataacat cgggtgtgca catttcacag aaaccttagc acagtatcta  
780  
gcttctgagt tccaaagatc cttcaaacat gatgtgagag gaaatgcgcg agccatgatg  
840  
aaattaacga acagtgtgta agtagcgaac cattctttgt caaccttggg aagtgcgaac  
900  
tgttttcttg actcattata tgaagggtcaa gattttgatt gcaatgtgtc cagagcaaga  
960  
tttgaacttc tttgttctcc actttttaat aagtgtatag aagcaatcag aggactctta  
1020  
gatcaaaatg gatttacagc agatgatatc aacaagggtg tcttttgtgg agggctctct  
1080  
cgaatcccaa agctacagca actgattaaa gatcttttcc cagctgttga gcttctcaat  
1140  
tctatccctc ctgatgaagt gatccctatt ggtgcagcta tagaagcagg aattcttatt  
1200  
gggaaagaaa acctgttggt ggaagactct cttatgatag agtggtcagc cagagatatt  
1260  
ttagttaagg gtgtggacga atcaggagcc agtagattca cagtgtgtt tccatcaggg  
1320  
actcctttgc cagctcgaag acaacacaca ttgcaagccc ctggaagcat atcttcagtg  
1380  
tgccttgaac tctatgagtc tgatgggaag aactctgcca aagaggaaac caagtttgca  
1440  
caggttgtag tccaggattt agataaaaaa gaaaatggat tacgtgatat attagctgtt  
1500  
cttactatga aaagggatgg atctttacat gtgacatgca cagatcaaga aactggaaaa  
1560  
tgtgaagcaa tctctattga gatagcatct tagtgtttta gagaaatcaa gaatttttaa  
1620  
aaacaagaat atcaacattt gggtttgtgt ataagtgggtg tttgtattaa aatactttt  
1680  
caatgaactg tataaactat gttttattaa actacaatat atcagtaaaa aaaaaaaaaa  
1740  
a  
1741

&lt;210&gt; 4356

&lt;211&gt; 509

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4356

Met Ala Ala Ile Gly Val His Leu Gly Cys Thr Ser Ala Cys Val Ala

1                      5                      10                      15  
 Val Tyr Lys Asp Gly Arg Ala Gly Val Val Ala Asn Asp Ala Gly Asp  
                     20                      25                      30  
 Arg Val Thr Pro Ala Val Val Ala Tyr Ser Glu Asn Glu Ile Val  
                     35                      40                      45  
 Gly Leu Ala Ala Lys Gln Ser Arg Ile Arg Asn Ile Ser Asn Thr Val  
                     50                      55                      60  
 Met Lys Val Lys Gln Ile Leu Gly Arg Ser Ser Ser Asp Pro Gln Ala  
 65                      70                      75                      80  
 Gln Lys Tyr Ile Ala Glu Ser Lys Cys Leu Val Ile Glu Lys Asn Gly  
                     85                      90                      95  
 Lys Leu Arg Tyr Glu Ile Asp Thr Gly Glu Glu Thr Lys Phe Val Asn  
                     100                      105                      110  
 Pro Glu Asp Val Ala Arg Leu Ile Phe Ser Lys Met Lys Glu Thr Ala  
                     115                      120                      125  
 His Ser Val Leu Gly Ser Asp Ala Asn Asp Val Val Ile Thr Val Pro  
                     130                      135                      140  
 Phe Asp Phe Gly Glu Lys Gln Lys Asn Ala Leu Gly Glu Ala Ala Arg  
 145                      150                      155                      160  
 Ala Ala Gly Phe Asn Val Leu Arg Leu Ile His Glu Pro Ser Ala Ala  
                     165                      170                      175  
 Leu Leu Ala Tyr Gly Ile Gly Gln Asp Ser Pro Thr Gly Lys Ser Asn  
                     180                      185                      190  
 Ile Leu Val Phe Lys Leu Gly Gly Thr Ser Leu Ser Leu Ser Val Met  
                     195                      200                      205  
 Glu Val Asn Ser Gly Ile Tyr Arg Val Leu Ser Thr Asn Thr Asp Asp  
                     210                      215                      220  
 Asn Ile Gly Gly Ala His Phe Thr Glu Thr Leu Ala Gln Tyr Leu Ala  
 225                      230                      235                      240  
 Ser Glu Phe Gln Arg Ser Phe Lys His Asp Val Arg Gly Asn Ala Arg  
                     245                      250                      255  
 Ala Met Met Lys Leu Thr Asn Ser Ala Glu Val Ala Lys His Ser Leu  
                     260                      265                      270  
 Ser Thr Leu Gly Ser Ala Asn Cys Phe Leu Asp Ser Leu Tyr Glu Gly  
                     275                      280                      285  
 Gln Asp Phe Asp Cys Asn Val Ser Arg Ala Arg Phe Glu Leu Leu Cys  
                     290                      295                      300  
 Ser Pro Leu Phe Asn Lys Cys Ile Glu Ala Ile Arg Gly Leu Leu Asp  
 305                      310                      315                      320  
 Gln Asn Gly Phe Thr Ala Asp Asp Ile Asn Lys Val Val Leu Cys Gly  
                     325                      330                      335  
 Gly Ser Ser Arg Ile Pro Lys Leu Gln Gln Leu Ile Lys Asp Leu Phe  
                     340                      345                      350  
 Pro Ala Val Glu Leu Leu Asn Ser Ile Pro Pro Asp Glu Val Ile Pro  
                     355                      360                      365  
 Ile Gly Ala Ala Ile Glu Ala Gly Ile Leu Ile Gly Lys Glu Asn Leu  
                     370                      375                      380  
 Leu Val Glu Asp Ser Leu Met Ile Glu Cys Ser Ala Arg Asp Ile Leu  
 385                      390                      395                      400  
 Val Lys Gly Val Asp Glu Ser Gly Ala Ser Arg Phe Thr Val Leu Phe  
                     405                      410                      415  
 Pro Ser Gly Thr Pro Leu Pro Ala Arg Arg Gln His Thr Leu Gln Ala  
                     420                      425                      430  
 Pro Gly Ser Ile Ser Ser Val Cys Leu Glu Leu Tyr Glu Ser Asp Gly

435 440 445  
 Lys Asn Ser Ala Lys Glu Glu Thr Lys Phe Ala Gln Val Val Leu Gln  
 450 455 460  
 Asp Leu Asp Lys Lys Glu Asn Gly Leu Arg Asp Ile Leu Ala Val Leu  
 465 470 475 480  
 Thr Met Lys Arg Asp Gly Ser Leu His Val Thr Cys Thr Asp Gln Glu  
 485 490 495  
 Thr Gly Lys Cys Glu Ala Ile Ser Ile Glu Ile Ala Ser  
 500 505

<210> 4357  
 <211> 421  
 <212> DNA  
 <213> Homo sapiens

<400> 4357  
 cgcccgccgccc tgcttggtgg agctgcatcc tcctcatctg caggcgctgg aaaaccagac  
 60  
 acgatcggac atgcatgtgg ttctgcggcc aaagcacgcc ctttggttgt gaacttcacg  
 120  
 atacctgtgt gcagctctgt catttccact ctgctctgct gcacagaagg cagaagccct  
 180  
 ggccgtcccc tgctgtgttc ttcaggagaa acgtcagggg ccttcctcca aggttctcca  
 240  
 gccccacacc cctgtggagg aaggtgctct ccaccgcggt agtgggggag cccctgctcc  
 300  
 tcggagcccc ctatgtcatg gcagaggcac gggagaagag gaggatgcgg ctctgtgtgg  
 360  
 atggcatggg gcgcttttgc aggtctctaa aggtcggcct gcagatctcc ctggactact  
 420  
 g  
 421

<210> 4358  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 4358  
 Met Trp Phe Cys Gly Gln Ser Thr Pro Phe Gly Cys Glu Leu His Asp  
 1 5 10 15  
 Thr Cys Val Gln Leu Cys His Phe His Ser Ala Leu Leu His Arg Arg  
 20 25 30  
 Gln Lys Pro Trp Pro Ser Pro Ala Val Phe Phe Arg Arg Asn Val Arg  
 35 40 45  
 Gly Leu Pro Pro Arg Phe Ser Ser Pro Thr Pro Leu Trp Arg Lys Val  
 50 55 60  
 Leu Ser Thr Ala Val Val Gly Ala Pro Leu Leu Leu Gly Ala Arg Tyr  
 65 70 75 80  
 Val Met Ala Glu Ala Arg Glu Lys Arg Arg Met Arg Leu Val Val Asp  
 85 90 95  
 Gly Met Gly Arg Phe Cys Arg Ser Leu Lys Val Gly Leu Gln Ile Ser  
 100 105 110  
 Leu Asp Tyr

115

&lt;210&gt; 4359

&lt;211&gt; 3661

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4359

ncggccgagg gggcatcatg aagcgggctg gcggcgctgc gtcccgggcg gccgcgggcg  
60  
ggaggtgctt cccaaggacc gtagatgcct ctctagagca tgagctcagg caagagtgcc  
120  
cgctacaacc gcttctccgg ggggcccgagc aatcttccca cccagacgt caccacaggg  
180  
accagaatgg aaacgacctt cggacccgcc ttttcagccg tcaccacat caaaaagct  
240  
gacgggacca gcacctacaa gcagcactgc aggacacct cctcctccag cacccttgcc  
300  
tactccccgc gggacgagga ggacagcatg cccccatca gcactccccg ccgctccgac  
360  
tccgccatct ctgtccgctc cctgcactca gagtcagca tgtctctgcy ctccacattc  
420  
tactgccccg aggaggagga ggagccggag cactggtgt ttgcggagca gccctcggtg  
480  
aagctgtgct gtcagctctg ctgcagcgtc ttcaaagacc ccgtgatcac cacgtgtggg  
540  
cacacgttct gtaggagatg cgccttgaag tcagagaagt gtcccgtgga caacgtcaaa  
600  
ctgaccgtgg tgggaacaa catcgcggtg gccgagcaga tcggggagct cttcatccac  
660  
tgccggcacg gctgccgggt agcgggcagc ggggaagcccc ccatctttga ggtggacccc  
720  
cgaggggtgcc ccttcacat caagctcagc gcccggaagg accacgaggg cagctgtgac  
780  
tacaggcctg tgcggtgtcc caacaacccc agctgcccc cgtgctcag gatgaacctg  
840  
gaggcccacc tcaaggagtg cgagcacatc aaatgcccc actccaagta cgggtgcaca  
900  
tttattggga atcaggacac ctatgagaca cacttagaaa catgccgctt cgagggcctg  
960  
aaggagtttc tgcagcagac ggatgaccgc ttccacgaga tgcattgtgc tctggcccag  
1020  
aaggaccagg agatcgccct cctgcgctcc atgctgggaa agctctcgga gaagatcgac  
1080  
cagctagaga agagcctgga gctcaagttt gacgtcctgg acgaaaacca gagcaagctc  
1140  
agcaggagacc tcattggagt cggcggggac gcatccatgt taaatgacga gctgtccac  
1200  
atcaacgcgc ggctgaacat gggcatccta ggctcctacg accctcagca gatcttcaag  
1260  
tgcaaagggg cctttgtggg ccaccagggc cctgtgtggt gtctctgcy ctactccatg  
1320  
ggtgacctgc tcttcagtgg ctctctgac aagaccatca aggtgtggga cacatgtacc  
1380



acctacaagt gtcagaagac actggagggc catgatggca tcgtgctggc tctctgcatc  
1440  
caggggtgca aactctacag cggtcttgca gactgcacca tcattgtgtg ggacatccag  
1500  
aacctgcaga aggtgaacac catccggggc catgacaacc cgggtgtgcac gctgggtctcc  
1560  
tcacacaacg tgctcttcag cggtccctg aaggccatca aggtctggga catcgtgggc  
1620  
actgagctga agttgaagaa ggagctcaca ggcctcaacc actgggtgag ggccctgggtg  
1680  
gctgcccaga gctacctgta cagcgggtcc taccagacaa tcaagatctg ggacatccga  
1740  
acccttgact gcatccacgt cctgcagacg tctgggtggca gcgtctactc cattgctgtg  
1800  
acaaatcacc acattgtctg tggcacctac gagaacctca tccacgtgtg ggacattgag  
1860  
tccaaggagc aggtgcggac cctcacgggc cacgtgggca ccgtgtatgc cctggcggtc  
1920  
atctcgacgc cagaccagac caaagtcttc agtgcacctc acgaccggtc cctcagggtc  
1980  
tggagtattg acaacatgat ctgcacgcag accctgctgc gtcaccaggg cagtgtcacc  
2040  
gcgctgggtg tgtcccgggg ccgactcttc tcaggggctg tggatagcac tgtgaagggt  
2100  
tggacttgct aacaggatcc aggccaggct gtgggtttcc ctgaaccagc cctggacctt  
2160  
tctgagccag gctggccaca tgggtgtgtc tcgggggttc tgctgcccc gtgggcatag  
2220  
gtggacaggc tctggcagcc gggcagtgcc ctccccgtcc catgctcggc gaggctccct  
2280  
ctactcggca ctgtccttgc tgcccagccc ctctctgggt gccaggtagc acgcttgccc  
2340  
cgccccaccc tccatcccca cctccatcc ccaccctaga tggagcgagg gcctttttac  
2400  
tcaccttttc taccgttttt agactgtatg tagatttggt tacctcctgg ttgaaataaa  
2460  
tgctccacag actgtggctg tgagtgggga cagctcctcg ggacaagggg gctgtgtgtg  
2520  
gccttgaggt tgggtgtgcac aggcactggc tgctgtgagt gggggggcat ggggcagttt  
2580  
cctttggtgg accccaggac ttcggcccac tccggggcct cccctcctg ctaggaggca  
2640  
actcgtcaca cccaagctgc tggcctccag tccatctcc cccaacacat gtgcccccaa  
2700  
aaagttagcc aggcacctct gtttctgtct gtttattgac agccgacgga gcgccttgcc  
2760  
cagacctccc ctgcccacct gctggagccc agcctgtgcc gccctctgag gagaggcctg  
2820  
gggggacagc tgggcacgtc cactcgcagg gaaacacggg gtgagacagc aggaaggggc  
2880  
cctgcacgcc gggacgccac ctccgccagc cgcctccacc cgccccacac cacaatcgct  
2940  
ggttttcggc attttttaaa tttttttttt aagaaacgtc aaagttgtgc ccaacactgt  
3000

ggatcagcaa acacgataga ggagaccagt cagtacttct tggagggggc aggaggagag  
 3060  
 agggaaaaggg agggcgagaa tgaccacaca acacagcctt ggaccatgag cagaagcgtc  
 3120  
 cgtgggaact ccactgggggt ggatgggctg cctgcacagc ccctggagag ggggccaggc  
 3180  
 acaccctcag aggagctgca agcccgtggc ctggcctgct acatgccctg cttccacgtg  
 3240  
 gctgccacgc tgacacaccc acattcacca aacccacccg cgccctggga cgcagccacg  
 3300  
 ccaggaggag gacacggccg ccgagagcaa ggcacaacct cgagttcttg gggcgagag  
 3360  
 aacttaggag agaagcacgg aggagcccc ggcagagcac ccgcccccg gccccagcct  
 3420  
 tccacctgtg ctacgagcct ggggcctcca ctctggccgg aggaaggacc gcaggcagac  
 3480  
 agcctgggccc tctaacagct tttgtccgga gctagacttc gtgtcctttc agttggtaaa  
 3540  
 tggttttcta tagaatcaat aatatttctt tctttaaata tatatttggt aaagttatac  
 3600  
 ctttttgttt ctctggggaa atccgcctca gctcattccc aataaattaa tactcttgaa  
 3660  
 a  
 3661

&lt;210&gt; 4360

&lt;211&gt; 670

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4360

Met	Ser	Ser	Gly	Lys	Ser	Ala	Arg	Tyr	Asn	Arg	Phe	Ser	Gly	Gly	Pro
1				5					10					15	
Ser	Asn	Leu	Pro	Thr	Pro	Asp	Val	Thr	Thr	Gly	Thr	Arg	Met	Glu	Thr
		20						25				30			
Thr	Phe	Gly	Pro	Ala	Phe	Ser	Ala	Val	Thr	Thr	Ile	Thr	Lys	Ala	Asp
		35					40					45			
Gly	Thr	Ser	Thr	Tyr	Lys	Gln	His	Cys	Arg	Thr	Pro	Ser	Ser	Ser	Ser
		50					55				60				
Thr	Leu	Ala	Tyr	Ser	Pro	Arg	Asp	Glu	Glu	Asp	Ser	Met	Pro	Pro	Ile
65					70					75					80
Ser	Thr	Pro	Arg	Arg	Ser	Asp	Ser	Ala	Ile	Ser	Val	Arg	Ser	Leu	His
			85						90					95	
Ser	Glu	Ser	Ser	Met	Ser	Leu	Arg	Ser	Thr	Phe	Ser	Leu	Pro	Glu	Glu
			100					105					110		
Glu	Glu	Glu	Pro	Glu	Pro	Leu	Val	Phe	Ala	Glu	Gln	Pro	Ser	Val	Lys
		115					120					125			
Leu	Cys	Cys	Gln	Leu	Cys	Cys	Ser	Val	Phe	Lys	Asp	Pro	Val	Ile	Thr
		130					135				140				
Thr	Cys	Gly	His	Thr	Phe	Cys	Arg	Arg	Cys	Ala	Leu	Lys	Ser	Glu	Lys
145					150					155					160
Cys	Pro	Val	Asp	Asn	Val	Lys	Leu	Thr	Val	Val	Val	Asn	Asn	Ile	Ala
				165					170					175	
Val	Ala	Glu	Gln	Ile	Gly	Glu	Leu	Phe	Ile	His	Cys	Arg	His	Gly	Cys

180 185 190  
 Arg Val Ala Gly Ser Gly Lys Pro Pro Ile Phe Glu Val Asp Pro Arg  
 195 200 205  
 Gly Cys Pro Phe Thr Ile Lys Leu Ser Ala Arg Lys Asp His Glu Gly  
 210 215 220  
 Ser Cys Asp Tyr Arg Pro Val Arg Cys Pro Asn Asn Pro Ser Cys Pro  
 225 230 235 240  
 Pro Leu Leu Arg Met Asn Leu Glu Ala His Leu Lys Glu Cys Glu His  
 245 250 255  
 Ile Lys Cys Pro His Ser Lys Tyr Gly Cys Thr Phe Ile Gly Asn Gln  
 260 265 270  
 Asp Thr Tyr Glu Thr His Leu Glu Thr Cys Arg Phe Glu Gly Leu Lys  
 275 280 285  
 Glu Phe Leu Gln Gln Thr Asp Asp Arg Phe His Glu Met His Val Ala  
 290 295 300  
 Leu Ala Gln Lys Asp Gln Glu Ile Ala Phe Leu Arg Ser Met Leu Gly  
 305 310 315 320  
 Lys Leu Ser Glu Lys Ile Asp Gln Leu Glu Lys Ser Leu Glu Leu Lys  
 325 330 335  
 Phe Asp Val Leu Asp Glu Asn Gln Ser Lys Leu Ser Glu Asp Leu Met  
 340 345 350  
 Glu Phe Arg Arg Asp Ala Ser Met Leu Asn Asp Glu Leu Ser His Ile  
 355 360 365  
 Asn Ala Arg Leu Asn Met Gly Ile Leu Gly Ser Tyr Asp Pro Gln Gln  
 370 375 380  
 Ile Phe Lys Cys Lys Gly Thr Phe Val Gly His Gln Gly Pro Val Trp  
 385 390 395 400  
 Cys Leu Cys Val Tyr Ser Met Gly Asp Leu Leu Phe Ser Gly Ser Ser  
 405 410 415  
 Asp Lys Thr Ile Lys Val Trp Asp Thr Cys Thr Thr Tyr Lys Cys Gln  
 420 425 430  
 Lys Thr Leu Glu Gly His Asp Gly Ile Val Leu Ala Leu Cys Ile Gln  
 435 440 445  
 Gly Cys Lys Leu Tyr Ser Gly Ser Ala Asp Cys Thr Ile Ile Val Trp  
 450 455 460  
 Asp Ile Gln Asn Leu Gln Lys Val Asn Thr Ile Arg Ala His Asp Asn  
 465 470 475 480  
 Pro Val Cys Thr Leu Val Ser Ser His Asn Val Leu Phe Ser Gly Ser  
 485 490 495  
 Leu Lys Ala Ile Lys Val Trp Asp Ile Val Gly Thr Glu Leu Lys Leu  
 500 505 510  
 Lys Lys Glu Leu Thr Gly Leu Asn His Trp Val Arg Ala Leu Val Ala  
 515 520 525  
 Ala Gln Ser Tyr Leu Tyr Ser Gly Ser Tyr Gln Thr Ile Lys Ile Trp  
 530 535 540  
 Asp Ile Arg Thr Leu Asp Cys Ile His Val Leu Gln Thr Ser Gly Gly  
 545 550 555 560  
 Ser Val Tyr Ser Ile Ala Val Thr Asn His His Ile Val Cys Gly Thr  
 565 570 575  
 Tyr Glu Asn Leu Ile His Val Trp Asp Ile Glu Ser Lys Glu Gln Val  
 580 585 590  
 Arg Thr Leu Thr Gly His Val Gly Thr Val Tyr Ala Leu Ala Val Ile  
 595 600 605  
 Ser Thr Pro Asp Gln Thr Lys Val Phe Ser Ala Ser Tyr Asp Arg Ser

610		615		620	
Leu Arg Val Trp Ser Met Asp Asn Met Ile Cys Thr Gln Thr Leu Leu					
625		630		635	640
Arg His Gln Gly Ser Val Thr Ala Leu Ala Val Ser Arg Gly Arg Leu					
	645		650		655
Phe Ser Gly Ala Val Asp Ser Thr Val Lys Val Trp Thr Cys					
660		665		670	

<210> 4361  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<400> 4361  
 nggatccaga acccattgct atcaggctgt acagccttca atcacaacgg gaacctgctg  
 60  
 gtcacagggg cagctgatgg cgtcatccgg ctgtttgaca tgcagcagca tgagtgcgcg  
 120  
 atgagctgga gggcccacta cggggagggtc tactctgtgg agttcagcta tgatgagaac  
 180  
 accgtgtaca gcatcggcga ggacgggaag gtagggcggt ccaggattca gataagagag  
 240  
 caccgggatg acatgtgggc cggctgcagg ttgtggccat acctgttact agctctgcaa  
 300  
 cctggggcct ctttttgcag ctttgttatc tgtagaatag ggataaacta gtaattcgtc  
 360  
 ttacaatcct tgcgagggtt tagtgaattc agtgggagtt ggctatcctt atgaaaggaa  
 420  
 gtacaaaaaa ttactcatct taccatagat gtatctgtgg ggtctggatt tagggctgag  
 480  
 tttgctttgc tgggcttggt agtgagtggg cccaggacca ctcatggatg tgtagtttgc  
 540  
 tgagtggctg gggacagctt cttacatgtg taca  
 574

<210> 4362  
 <211> 116  
 <212> PRT  
 <213> Homo sapiens

<400> 4362  
 Xaa Ile Gln Asn Pro Leu Leu Ser Gly Cys Thr Ala Phe Asn His Asn  
 1 5 10 15  
 Gly Asn Leu Leu Val Thr Gly Ala Ala Asp Gly Val Ile Arg Leu Phe  
 20 25 30  
 Asp Met Gln Gln His Glu Cys Ala Met Ser Trp Arg Ala His Tyr Gly  
 35 40 45  
 Glu Val Tyr Ser Val Glu Phe Ser Tyr Asp Glu Asn Thr Val Tyr Ser  
 50 55 60  
 Ile Gly Glu Asp Gly Lys Val Gly Gly Ser Arg Ile Gln Ile Arg Glu  
 65 70 75 80  
 His Arg Asp Asp Met Trp Ala Gly Cys Arg Leu Trp Pro Tyr Leu Leu  
 85 90 95  
 Leu Ala Leu Gln Pro Gly Ala Ser Phe Cys Ser Phe Val Ile Cys Arg

Ile Gly Ile Asn  
115

100

105

110

<210> 4363  
<211> 1222  
<212> DNA  
<213> Homo sapiens

<400> 4363  
 tttttttttt tttttttttt tttttttttt tttttttttt tttttgagat ttcccaggac  
 60  
 tggttttaat ttgaaaaatc tgattggggt ctcttcccgt atcagagaag gaacagccca  
 120  
 agctatgacc ccagggccag ggaattcagt cccaccaga ccctgtcatt ccatcactag  
 180  
 ggggtaattc caggctcccc ctgccagccc tgagacagga ggacggatgt gaagttgccc  
 240  
 aggactagat tctgtctctc caaagtggcc caagccctgt tctctgtact agggaagcca  
 300  
 gctgtgtctt ttcgaggaca gttggtccag ccagcaggct cagttcagat accagacaac  
 360  
 cattccagca cgagggctca gcgccctggc cccggcggtc gctccagtgc ctgtgtgccc  
 420  
 accagcacat ccatgaggta gtccaattcg gcctcgtcca gctccggagc ttcctccttg  
 480  
 cccggcccat cctcagggcc tggtttgagg ccctcagagg ctggtgccc aagttcattg  
 540  
 tcatacatag aggtgtcaat atcctcaaac aggcctcga gccatcgtc cagtagacag  
 600  
 ccagtggctg ggcccagcag gtccaaggca ccagggctgg gcgctgctcc cccgatgcta  
 660  
 cggcctgggtg gccctcgtc tgccaagggt tggggagcct gactcaggcc ctcaatgtgg  
 720  
 ctgaggtcct ccaggaggct ggccatggag gctgaaaggg cagcgtccga gcttgccagt  
 780  
 aagttgtcag ccacactggg ggctgcaggt gggctaggca caggtggcag ggcagccgcg  
 840  
 ggtgccatgg acgcnntgg atgcgccga gagtgttcac gaccagcacc aggtgccgca  
 900  
 ggtccggctc actctgctgc aggctgtggt nggagcttga gactgagag gtcaaagagg  
 960  
 gagctagagg ccacggccgg gggcgctgt gccaccgctg cgtggccagg atctagccac  
 1020  
 caggagtcca ctgccagagg ttccttctcc tctcctcct cccgtttccg ctccagaccc  
 1080  
 ttgctcagca tcttgctcac tagcgccaa tcagaacgaa gaggtagcca cccacaacca  
 1140  
 atcaggaaac ggcgccggca gcacgccttg ttggctgtcc tccgaaacc cgcgcctggg  
 1200  
 tcgcgagacg cagttctagc ga  
 1222

<210> 4364

<211> 75  
 <212> PRT  
 <213> Homo sapiens

<400> 4364  
 Asp Arg Arg Thr Asp Val Lys Leu Pro Arg Thr Arg Phe Cys Leu Ser  
 1 5 10 15  
 Lys Val Ala Gln Ala Leu Phe Ser Val Leu Gly Lys Pro Ala Val Ser  
 20 25 30  
 Phe Arg Gly Gln Leu Val Gln Pro Ala Gly Ser Val Gln Ile Pro Asp  
 35 40 45  
 Asn His Ser Ser Thr Arg Ala Gln Arg Pro Gly Pro Gly Gly Arg Ser  
 50 55 60  
 Ser Ala Cys Val Pro Thr Ser Thr Ser Met Arg  
 65 70 75

<210> 4365  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<400> 4365  
 gacgtgctcg atggcaaggt cgcaccgggc aagaacgtgc cggctctacga caccatctgc  
 60  
 gagttcaccg gcatgtcggt cgccgacttc ctcgctgaca agggcagcca ggttgagatc  
 120  
 gtcaccgacg acatcaagcc ggggtgtggcg attggcggtta cgtcgttccc gacctactac  
 180  
 cgcagcatgt acccgaaaga agtgatcatg accggcgaca tgatgctgga aaaggtctat  
 240  
 cgcgagggcg acaagctgggt ggcggtgctg gagaacgaat acaccggcgc caaggaagag  
 300  
 cgggtggctg accaggtgggt ggtggagaac ggtgtgcgtc cggatgagga aatctactac  
 360  
 gggctcaagg aaggttcgcg caacaagggc cagatcgatg tcgaagccct gttcgcgatc  
 420  
 aagccgcagc cttcgctgaa tactcttaat gaagaggcag cgggtgacg  
 469

<210> 4366  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<400> 4366  
 Asp Val Leu Asp Gly Lys Val Ala Pro Gly Lys Asn Val Pro Val Tyr  
 1 5 10 15  
 Asp Thr Ile Cys Glu Phe Thr Gly Met Ser Val Ala Asp Phe Leu Ala  
 20 25 30  
 Asp Lys Gly Ser Gln Val Glu Ile Val Thr Asp Asp Ile Lys Pro Gly  
 35 40 45  
 Val Ala Ile Gly Gly Thr Ser Phe Pro Thr Tyr Tyr Arg Ser Met Tyr  
 50 55 60  
 Pro Lys Glu Val Ile Met Thr Gly Asp Met Met Leu Glu Lys Val Tyr

65		70		75		80									
Arg	Glu	Gly	Asp	Lys	Leu	Val	Ala	Val	Leu	Glu	Asn	Glu	Tyr	Thr	Gly
				85					90					95	
Ala	Lys	Glu	Glu	Arg	Val	Val	Asp	Gln	Val	Val	Val	Glu	Asn	Gly	Val
			100					105					110		
Arg	Pro	Asp	Glu	Glu	Ile	Tyr	Tyr	Gly	Leu	Lys	Glu	Gly	Ser	Arg	Asn
		115					120						125		
Lys	Gly	Gln	Ile	Asp	Val	Glu	Ala	Leu	Phe	Ala	Ile	Lys	Pro	Gln	Pro
	130					135					140				
Ser	Leu	Asn	Thr	Leu	Asn	Glu	Glu	Ala	Ala	Gly	Asp				
145					150					155					

&lt;210&gt; 4367

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4367

```

nncctaggca gggggatggc cctgctgac tgcaccagaa ggaaggagct ggggccggct
60
ggccttttgc aggtggaatt tccagaggcc cggatcttcg aggagaccct gaacatcctc
120
atctacgaga ctccccgggg cccagaccga gccctcctgg aggccacagg gggagcagct
180
ggagctggtg gggctggccg cggggaggat gaagagaacc gagagcaccg tgtccgcagg
240
atccatgtcc ggcgccatat caccacgac gagegtcctc atggccaaca aattgtcttc
300
aaggactgac ctctgaccct cccctgcct tcctcttgcc ttgggacca gtccctctct
360
ctttccctcc ccttccaga cttttgcccc ggctctgctg gccaaagtcgt gggctcctct
420
ctgtcccttc attgcatggc acagctcact ttggcccttc tccaccgct ccaaccccat
480
tgctaacaac atggtacatt ccggccccac cactcagagc cttccgaagc caacacttgt
540
ccccaccctg gcctgctgc ctccctctc cagctgggta agagggattt agaattccct
600
ttctcttttt ttagtgcac gtccatgcca aagtgtgcgg ccttcctga catcaccaca
660
gtctgagcag cctcccgct cctgcagggt agtcgcccc ctctcccca ccatcctccc
720
tacctcctta actttgtact agactggcct gggcctgccc agctcagcgt tatcagtctg
780
tttcatatta tttattattt taattttcta tttaaattatt gaaataaagt taagttgaga
840
aactaaaaaa aa
852

```

&lt;210&gt; 4368

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4368

Xaa Leu Gly Arg Gly Met Ala Leu Arg Asp Cys Thr Arg Arg Lys Glu  
 1 5 10 15  
 Leu Gly Pro Ala Gly Leu Leu Gln Val Glu Phe Pro Glu Ala Arg Ile  
 20 25 30  
 Phe Glu Glu Thr Leu Asn Ile Leu Ile Tyr Glu Thr Pro Arg Gly Pro  
 35 40 45  
 Asp Pro Ala Leu Leu Glu Ala Thr Gly Gly Ala Ala Gly Ala Gly Gly  
 50 55 60  
 Ala Gly Arg Gly Glu Asp Glu Glu Asn Arg Glu His Arg Val Arg Arg  
 65 70 75 80  
 Ile His Val Arg Arg His Ile Thr His Asp Glu Arg Pro His Gly Gln  
 85 90 95  
 Gln Ile Val Phe Lys Asp  
 100

&lt;210&gt; 4369

&lt;211&gt; 1264

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4369

gctcagctgg ccaaccctga aatccccctg ggcagtgacg agcagttcct cctcaccctg  
 60  
 tcctccatca gcgagctctc tgcaagactt cacctctggg cattcaaaat ggattatgaa  
 120  
 actacagaaa aggaagtagc agaaccactc ctggacactga aggaaggaat agaccagttg  
 180  
 gagaacaata aaaccttggg ctttatcctg tctactctct tagccattgg gaactttcta  
 240  
 aatggaacta atgccaagc gtttgagtta agctacctcg agaagggtcc agaagtcaaa  
 300  
 gacacagtgc acaagcagtc gcttctccac catgtgtgca ccatgggtgg agaaaacttc  
 360  
 ccagacagct ccgatctgta ctggagatc ggggccatca ccaggtcagc caagggtgac  
 420  
 tttgatcaac ttcaggataa tttatgtcag atggagagaa gatgcaaagc ttcattgggt  
 480  
 cacctcaagg caattgcaaa acatgaaatg aaaccagttt taaaacaacg gatgtcagag  
 540  
 ttcctgaaag actgtgcaga gcgaattata attttaaaga ttgtccatag aaggataatc  
 600  
 aacagattcc actccttttt actctttatg ggccatccac cttatgcaat tcgggaagtg  
 660  
 aacataaaca aattctgcag gattattagt gaatttgac tagagtatcg cacaaccagg  
 720  
 gaaagggttt tgcagcagaa acagaaacgg gcccaaccaca gagagagaaa taagaccaga  
 780  
 ggaagatga tcaccgattc tggcaagttc tccggcagtt ctccggcgcc cccaagccag  
 840  
 ccgagggtc tgagctatgc ggaggacgag gctgagcacg agaacatgaa ggctgtgctg  
 900  
 aaaacctcgt cccctccag gagtccccctg cacatacctt ctccatcgtg tcagctgtgt  
 960



ttctcttgat tccgtgacac ccggtttatt agttcaaaag tgtgacacct tttctgggca  
 1020  
 aggaacagcc cctttaagga gcaaataact tctgtcacag ttattatggt aatatgaggc  
 1080  
 aatctgatta gcttcacaga ctgagtctcc acaacaccaa aatatccaga tgtaaaccce  
 1140  
 aaactgttac acaaaagaaa gcacagattg tttacctgtt gtggatttta gatgtaacaa  
 1200  
 atgtttatatac aaatacatac atgtacacca tgtttcaaata actaaataaa tagagtttaa  
 1260  
 tgcc  
 1264

<210> 4370  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 4370  
 Ala Gln Leu Ala Asn Pro Glu Ile Pro Leu Gly Ser Ala Glu Gln Phe  
 1 5 10 15  
 Leu Leu Thr Leu Ser Ser Ile Ser Glu Leu Ser Ala Arg Leu His Leu  
 20 25 30  
 Trp Ala Phe Lys Met Asp Tyr Glu Thr Thr Glu Lys Glu Val Ala Glu  
 35 40 45  
 Pro Leu Leu Asp Leu Lys Glu Gly Ile Asp Gln Leu Glu Asn Asn Lys  
 50 55 60  
 Thr Leu Gly Phe Ile Leu Ser Thr Leu Leu Ala Ile Gly Asn Phe Leu  
 65 70 75 80  
 Asn Gly Thr Asn Ala Lys Ala Phe Glu Leu Ser Tyr Leu Glu Lys Val  
 85 90 95  
 Pro Glu Val Lys Asp Thr Val His Lys Gln Ser Leu Leu His His Val  
 100 105 110  
 Cys Thr Met Val Val Glu Asn Phe Pro Asp Ser Ser Asp Leu Tyr Ser  
 115 120 125  
 Glu Ile Gly Ala Ile Thr Arg Ser Ala Lys Val Asp Phe Asp Gln Leu  
 130 135 140  
 Gln Asp Asn Leu Cys Gln Met Glu Arg Arg Cys Lys Ala Ser Trp Asp  
 145 150 155 160  
 His Leu Lys Ala Ile Ala Lys His Glu Met Lys Pro Val Leu Lys Gln  
 165 170 175  
 Arg Met Ser Glu Phe Leu Lys Asp Cys Ala Glu Arg Ile Ile Ile Leu  
 180 185 190  
 Lys Ile Val His Arg Arg Ile Ile Asn Arg Phe His Ser Phe Leu Leu  
 195 200 205  
 Phe Met Gly His Pro Pro Tyr Ala Ile Arg Glu Val Asn Ile Asn Lys  
 210 215 220  
 Phe Cys Arg Ile Ile Ser Glu Phe Ala Leu Glu Tyr Arg Thr Thr Arg  
 225 230 235 240  
 Glu Arg Val Leu Gln Gln Lys Gln Lys Arg Ala Asn His Arg Glu Arg  
 245 250 255  
 Asn Lys Thr Arg Gly Lys Met Ile Thr Asp Ser Gly Lys Phe Ser Gly  
 260 265 270  
 Ser Ser Pro Ala Pro Pro Ser Gln Pro Gln Gly Leu Ser Tyr Ala Glu

	275		280		285										
Asp	Ala	Ala	Glu	His	Glu	Asn	Met	Lys	Ala	Val	Leu	Lys	Thr	Ser	Ser
	290		295		300										
Pro	Ser	Arg	Ser	Pro	Leu	His	Ile	Pro	Ser	Pro	Ser	Cys	Gln	Leu	Cys
305			310						315					320	
Phe	Ser														

<210> 4371  
 <211> 907  
 <212> DNA  
 <213> Homo sapiens

<400> 4371  
 acttttcaaaa tggcggagtg tggagcgagc ggcagcggga gcagcgggga cagtctggac  
 60  
 aagagcatca cgctgcccc cgacgagatc ttccgcaacc tggagaacgc caagcgcttc  
 120  
 gccatcgaca taggcgggtc gttaaccaag ctggcctact attcaacggt acagcacaaa  
 180  
 gtcgccaagg tgcggtcttt cgaccactcc ggaaaggaca cagaacgtga acatgagccg  
 240  
 ccctatgaga ttctagttca agaagagatc actgctcgac tgcacttcat taagtttgag  
 300  
 aatacctaca tcgaagcctg cctggacttc atcaaagacc atctcgtcaa cacagagacc  
 360  
 aagggtcatcc aggcgaccgg gggcggggcc tacaagttca aggacctcat cgaagagaag  
 420  
 ctgcggtga aagtcgacaa ggaggacgtg atgacgtgcc tgattaaggg gtgcaacttc  
 480  
 gtgtcaaga acatccccca tgaggccttc gtgtaccaga aggattccga ccctgagttc  
 540  
 cggttccaga ccaaccaccc ccacattttc ccctatcttc ttgtcaatat cggctctgga  
 600  
 gtctccatcg tgaagggtga gacggaggac aggttcgagt gggtcggcgg cagctccatt  
 660  
 ggaggcggca ccttctgggg gcttggcgct ctgctcacca aaacgaagaa gtttgacgag  
 720  
 ctctctgacc tggcctcgag gggccagcac agcaatgtgg acatgctggt gcgggacgtc  
 780  
 tacggcggcg cccaccagac tctcgggctg agcgggaacc tcatcgccag cagcttcggg  
 840  
 aagtcggcca ccgccgacca agagttctcc aaagaagaca tggcgaagag cctgctgcac  
 900  
 atgatca  
 907

<210> 4372  
 <211> 302  
 <212> PRT  
 <213> Homo sapiens

<400> 4372  
 Thr Phe Lys Met Ala Glu Cys Gly Ala Ser Gly Ser Gly Ser Ser Gly

```

      1           5           10           15
Asp Ser Leu Asp Lys Ser Ile Thr Leu Pro Pro Asp Glu Ile Phe Arg
      20           25           30
Asn Leu Glu Asn Ala Lys Arg Phe Ala Ile Asp Ile Gly Gly Ser Leu
      35           40           45
Thr Lys Leu Ala Tyr Tyr Ser Thr Val Gln His Lys Val Ala Lys Val
      50           55           60
Arg Ser Phe Asp His Ser Gly Lys Asp Thr Glu Arg Glu His Glu Pro
      65           70           75           80
Pro Tyr Glu Ile Ser Val Gln Glu Glu Ile Thr Ala Arg Leu His Phe
      85           90           95
Ile Lys Phe Glu Asn Thr Tyr Ile Glu Ala Cys Leu Asp Phe Ile Lys
      100          105          110
Asp His Leu Val Asn Thr Glu Thr Lys Val Ile Gln Ala Thr Gly Gly
      115          120          125
Gly Ala Tyr Lys Phe Lys Asp Leu Ile Glu Glu Lys Leu Arg Leu Lys
      130          135          140
Val Asp Lys Glu Asp Val Met Thr Cys Leu Ile Lys Gly Cys Asn Phe
      145          150          155          160
Val Leu Lys Asn Ile Pro His Glu Ala Phe Val Tyr Gln Lys Asp Ser
      165          170          175
Asp Pro Glu Phe Arg Phe Gln Thr Asn His Pro His Ile Phe Pro Tyr
      180          185          190
Leu Leu Val Asn Ile Gly Ser Gly Val Ser Ile Val Lys Val Glu Thr
      195          200          205
Glu Asp Arg Phe Glu Trp Val Gly Gly Ser Ser Ile Gly Gly Gly Thr
      210          215          220
Phe Trp Gly Leu Gly Ala Leu Leu Thr Lys Thr Lys Lys Phe Asp Glu
      225          230          235          240
Leu Leu His Leu Ala Ser Arg Gly Gln His Ser Asn Val Asp Met Leu
      245          250          255
Val Arg Asp Val Tyr Gly Gly Ala His Gln Thr Leu Gly Leu Ser Gly
      260          265          270
Asn Leu Ile Ala Ser Ser Phe Gly Lys Ser Ala Thr Ala Asp Gln Glu
      275          280          285
Phe Ser Lys Glu Asp Met Ala Lys Ser Leu Leu His Met Ile
      290          295          300

```

&lt;210&gt; 4373

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4373

```

acgcgtcatc acggctgcgc cgggggaatc cgtgcgggcg ccttcctgcc cgggtcccatc
60
ctcgccgcgc tccagcacct ctgaagtttt gcagcgccca gaaaggaggc gaggaaggag
120
ggagtgtgtg agaggagggg gcaaaaagct caccctaaaa catttatctc aaggagaaaa
180
gaaaaagggg gggcgcaaaa atggctgggg caattataga aaacatgagc accaagaagc
240
tgtgcattgt tgggtgggatt ctgctcgtgt tccaaatcat cgcctttctg gtgggaggct
300

```

tgattgctcc agggccca acggcagtg cctacatgtc ggtgaaatgt gtggatgccc  
 360  
 gtaagaacca tcacaagaca aaatggttcg tgccttgggg acccaatcat tgtgacaaga  
 420  
 tccgagacat tgaagaggca attccaaggg aaattgaagc caatgacatc gtgttttctg  
 480  
 ttcacattcc cctccccac atggagatga gtccttggtt ccaattcatg ctgtttatcc  
 540  
 tgcagctgga cattgccttc aagctaaaca accaaatcag agaaaatgca gaagtctcca  
 600  
 tggacgtttc cctggcttac cgtgatgacg cgtttgctga gtggactgaa atggcccatg  
 660  
 aaagagtacc acggaaactc aaatgcacct tcacatctcc caagactcca gagcatgagg  
 720  
 gccgttacta tgaatgtgat gtccttcctt tcatggaaat tgggtctgtg gcccataagt  
 780  
 tttacctttt aaacatccgg ctgcctgtga atgagaagaa gaaaatcaat gtgggaattg  
 840  
 gggagataaa ggatatccgg ttggtgggga tccacaaaaa tggaggcttc accaaggtgt  
 900  
 ggtttgccat gaagaccttc cttacgcca gcattctcat cattatggtg tggatttggga  
 960  
 ggaggatcac catgatgtcc cgacccccag tgcttctgga aaaagtcac tttgccc  
 1017

&lt;210&gt; 4374

&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4374

Met	Ala	Gly	Ala	Ile	Ile	Glu	Asn	Met	Ser	Thr	Lys	Lys	Leu	Cys	Ile
1				5					10					15	
Val	Gly	Gly	Ile	Leu	Leu	Val	Phe	Gln	Ile	Ile	Ala	Phe	Leu	Val	Gly
			20					25					30		
Gly	Leu	Ile	Ala	Pro	Gly	Pro	Thr	Thr	Ala	Val	Ser	Tyr	Met	Ser	Val
		35					40					45			
Lys	Cys	Val	Asp	Ala	Arg	Lys	Asn	His	His	Lys	Thr	Lys	Trp	Phe	Val
	50					55					60				
Pro	Trp	Gly	Pro	Asn	His	Cys	Asp	Lys	Ile	Arg	Asp	Ile	Glu	Glu	Ala
65				70					75					80	
Ile	Pro	Arg	Glu	Ile	Glu	Ala	Asn	Asp	Ile	Val	Phe	Ser	Val	His	Ile
			85					90						95	
Pro	Leu	Pro	His	Met	Glu	Met	Ser	Pro	Trp	Phe	Gln	Phe	Met	Leu	Phe
			100					105					110		
Ile	Leu	Gln	Leu	Asp	Ile	Ala	Phe	Lys	Leu	Asn	Asn	Gln	Ile	Arg	Glu
		115					120					125			
Asn	Ala	Glu	Val	Ser	Met	Asp	Val	Ser	Leu	Ala	Tyr	Arg	Asp	Asp	Ala
		130				135					140				
Phe	Ala	Glu	Trp	Thr	Glu	Met	Ala	His	Glu	Arg	Val	Pro	Arg	Lys	Leu
145				150					155					160	
Lys	Cys	Thr	Phe	Thr	Ser	Pro	Lys	Thr	Pro	Glu	His	Glu	Gly	Arg	Tyr
			165					170					175		
Tyr	Glu	Cys	Asp	Val	Leu	Pro	Phe	Met	Glu	Ile	Gly	Ser	Val	Ala	His

```
<210> 4375
<211> 1966
<212> DNA
<213> Homo sapiens
```

3565

gccgcacatca ttgctgactc cataacttaat ctgtttggcc tggggctcat tgggcctgag  
 1140  
 tcacccagcg tctccgcaca gaactcagac acaccgctgc tccccctgc agtgccctga  
 1200  
 cccttgctgc cctgcctgtc acgtggccct gcctatccgc cccttagtgc tttttgtttt  
 1260  
 ctaacctcat ggggtggtgg aggcagcctt cagtgagcat ggaggggcag ggccatccct  
 1320  
 ggctggggcc tggagctggc ctttcctcta cttttccctg ctggaagcca gaagggttg  
 1380  
 aggcctctat ggggtggggc agaaagcaga gcctgtgtcc caggggaccc acacgaagt  
 1440  
 accagcccat aggtccaggg aggcaggcag ttaactgaga attggagagg acaggctagg  
 1500  
 tcccaggcac agcgagggcc ctgggcttgg ggtgttctgg ttttgagaac ggcagaccca  
 1560  
 ggtcggagtg aggaagcttc cacctccatc ctgactaggc ctgcatacta actgggcctc  
 1620  
 cctccctccc cttgggtcatg ggatttctg cctccttgc cccagagctg aagagctata  
 1680  
 ggcaactggtg tggatggccc aggaggtgct ggagctaggt ctccaggtgg gcctggttcc  
 1740  
 caggcagcag gtgggaaccc tgggcctgga tgtgaggggc ggtcaggaag gggtagaggt  
 1800  
 gggttccctc atctggagtt cccctcaat aaagcaaggt ctggacctgc cttccaggc  
 1860  
 ccttctgtgg ggggtgaaggt ggggaaggcc tgcggcgccc agatcactgc cttagcagta  
 1920  
 gtcttgccctg ttcagtcaa ggggcaggtt ttggggggag gaattc  
 1966

&lt;210&gt; 4376

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4376

Lys	Val	Pro	Ala	Leu	Tyr	Thr	Thr	Thr	Ser	Gly	Arg	Cys	Ser	Trp	Arg
1				5					10					15	
Asp	Phe	Leu	Met	Phe	Leu	Ser	Thr	Leu	Ser	Arg	Tyr	Ser	Ser	Ser	Ser
		20						25					30		
Val	Pro	His	Ser	Ser	Ser	Thr	Phe	Arg	Leu	Thr	Ala	Ser	Phe	Gly	Arg
		35					40					45			
Ala	Gly	Pro	Gly	Met	Leu	His	Thr	Thr	Gln	Leu	Tyr	Gln	His	Val	Pro
	50					55				60					
Glu	Thr	Arg	Trp	Pro	Ile	Val	Tyr	Ser	Pro	Arg	Tyr	Asn	Ile	Thr	Phe
65					70					75				80	
Met	Gly	Leu	Glu	Lys	Leu	His	Pro	Phe	Asp	Ala	Gly	Lys	Trp	Gly	Lys
			85					90						95	
Val	Ile	Asn	Phe	Leu	Lys	Glu	Glu	Lys	Leu	Leu	Ser	Asp	Ser	Met	Leu
		100						105				110			
Val	Glu	Ala	Arg	Glu	Ala	Ser	Glu	Glu	Asp	Leu	Leu	Val	Val	His	Thr
		115					120					125			
Arg	Arg	Tyr	Leu	Asn	Glu	Leu	Lys	Trp	Ser	Phe	Ala	Val	Ala	Thr	Ile

130 135 140  
 Thr Glu Ile Pro Pro Val Ile Phe Leu Pro Asn Phe Leu Val Gln Arg  
 145 150 155 160  
 Lys Val Leu Arg Pro Leu Arg Thr Gln Thr Gly Gly Thr Ile Met Ala  
 165 170 175  
 Gly Lys Leu Ala Val Glu Arg Gly Trp Ala Ile Asn Val Gly Gly Gly  
 180 185 190  
 Phe His His Cys Ser Ser Asp Arg Gly Gly Gly Phe Cys Ala Tyr Ala  
 195 200 205  
 Asp Ile Thr Leu Ala Ile Lys Phe Leu Phe Glu Arg Val Glu Gly Ile  
 210 215 220  
 Ser Arg Ala Thr Ile Ile Asp Leu Asp Ala His Gln Gly Asn Gly His  
 225 230 235 240  
 Glu Arg Asp Phe Met Asp Asp Lys Cys Val Thr Cys Met Asp Val Tyr  
 245 250 255  
 Asn Arg His Ile Tyr Pro Gly Asp Arg Phe Ala Lys Gln Ala Ile Arg  
 260 265 270  
 Arg Lys Val Glu Leu Glu Trp Gly Thr Glu Asp Asp Glu Tyr Leu Asp  
 275 280 285  
 Lys Val Glu Arg Asn Ile Lys Lys Ser Leu Gln Glu His Leu Pro Asp  
 290 295 300  
 Val Val Val Tyr Asn Ala Gly Thr Asp Ile Leu Glu Gly Asp Arg Leu  
 305 310 315 320  
 Gly Gly Leu Ser Ile Ser Pro Ala Gly Ile Val Lys Arg Asp Glu Leu  
 325 330 335  
 Val Phe Arg Met Val Arg Gly Arg Arg Val Pro Ile Leu Met Val Thr  
 340 345 350  
 Ser Gly Gly Tyr Gln Lys Arg Thr Ala Arg Ile Ile Ala Asp Ser Ile  
 355 360 365  
 Leu Asn Leu Phe Gly Leu Gly Leu Ile Gly Pro Glu Ser Pro Ser Val  
 370 375 380  
 Ser Ala Gln Asn Ser Asp Thr Pro Leu Leu Pro Pro Ala Val Pro  
 385 390 395

&lt;210&gt; 4377

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4377

ntccctgggga ggcggtgccc cccatggcga ggccggcgag agcagggcct gcttcccccc  
 60  
 gaggacagcc gcctgtggca gtatcttctg agccgtcca tgcgggagca cccggcgctg  
 120  
 cgaagcctga ggctgctgac cctggagcag ccgagggggg attctatgat gacctgagag  
 180  
 caggcccagc tcttgccaa cctggcgagg ctcacccagg ccaagaaggc gctggacctg  
 240  
 ggcaccttca cgggctactc cgccctggcc ctggccctgg cgctgcccgc ggacggggcg  
 300  
 gtggtgacct gcgaggtgga cgcgcagccc ccggagctgg gacggcccct gtggaggcag  
 360  
 gccgagggcg agcacaagat tcgactccgg ctgaagcccg ccttggagac cctggagcag  
 420

ctgctggcgg cgggcgagggc cggcaccttc gacgtggccg tgggtggatgc ggacaaggag  
 480  
 aactgctccg cctactacga gcgctgcctg cagctgctgc gaccgcggagg catcctcgcc  
 540  
 gtccctcagag tcctgtggcg cgggaagggtg ctgcaacctc cgaaagggga cgtggcggcc  
 600  
 gagtgtgtgc gaaacctaaa cgaacgcatac cggcggggacg tcagggtcta catcagcctc  
 660  
 ctgcccctgg gcgatggact caccttgccc ttcaagatct agggctggcc cctagttagt  
 720  
 gggctcgagg gaggggttggc tgggaacccc aggaattgac cctgagtttt aaattcgaaa  
 780  
 ataaagtggg gctgggacac acgaaaaaaaa aa  
 812

<210> 4378

<211> 233

<212> PRT

<213> Homo sapiens

<400> 4378

Xaa	Leu	Gly	Arg	Arg	Cys	Pro	Pro	Trp	Arg	Gly	Arg	Arg	Glu	Gln	Gly	1	5	10	15
Leu	Leu	Pro	Pro	Glu	Asp	Ser	Arg	Leu	Trp	Gln	Tyr	Leu	Leu	Ser	Arg	20	25	30	
Ser	Met	Arg	Glu	His	Pro	Ala	Leu	Arg	Ser	Leu	Arg	Leu	Leu	Thr	Leu	35	40	45	
Glu	Gln	Pro	Gln	Gly	Asp	Ser	Met	Met	Thr	Cys	Glu	Gln	Ala	Gln	Leu	50	55	60	
Leu	Ala	Asn	Leu	Ala	Arg	Leu	Ile	Gln	Ala	Lys	Lys	Ala	Leu	Asp	Leu	65	70	75	80
Gly	Thr	Phe	Thr	Gly	Tyr	Ser	Ala	Leu	Ala	Leu	Ala	Leu	Ala	Leu	Pro	85	90	95	
Ala	Asp	Gly	Arg	Val	Val	Thr	Cys	Glu	Val	Asp	Ala	Gln	Pro	Pro	Glu	100	105	110	
Leu	Gly	Arg	Pro	Leu	Trp	Arg	Gln	Ala	Glu	Ala	Glu	His	Lys	Ile	Arg	115	120	125	
Leu	Arg	Leu	Lys	Pro	Ala	Leu	Glu	Thr	Leu	Asp	Glu	Leu	Leu	Ala	Ala	130	135	140	
Gly	Glu	Ala	Gly	Thr	Phe	Asp	Val	Ala	Val	Val	Asp	Ala	Asp	Lys	Glu	145	150	155	160
Asn	Cys	Ser	Ala	Tyr	Tyr	Glu	Arg	Cys	Leu	Gln	Leu	Leu	Arg	Pro	Gly	165	170	175	
Gly	Ile	Leu	Ala	Val	Leu	Arg	Val	Leu	Trp	Arg	Gly	Lys	Val	Leu	Gln	180	185	190	
Pro	Pro	Lys	Gly	Asp	Val	Ala	Ala	Glu	Cys	Val	Arg	Asn	Leu	Asn	Glu	195	200	205	
Arg	Ile	Arg	Arg	Asp	Val	Arg	Val	Tyr	Ile	Ser	Leu	Leu	Pro	Leu	Gly	210	215	220	
Asp	Gly	Leu	Thr	Leu	Ala	Phe	Lys	Ile								225	230		

<210> 4379

<211> 2347



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4379

ngaggaccaa gccatgcgtg cctttgagct aatgaggagc aacgcggccc tggtccagct  
60  
gggctcggcc ccgcggtgtg ctggattgtg tgcacgactc tgaagctgca gatggagaag  
120  
ggggaggacc cggccccac ctgcctcacc cgcacggggc tggtcctgcg tttcctctgc  
180  
agccggttcc cgcggggcgc acagctgcgg ggcgcgctgc ggacgctgag cctcctggcc  
240  
gcgcagggcc tgtgggcgca gacgtccgtg cttcaccgag aggatctgga aaggctcggg  
300  
gtgcaggagt ccgacctccg tctgttcctg gacggagaca tcctccgcca ggacagagtc  
360  
tccaaaggct gctactcctt catccacctc agcttccagc agtttctcac tgccctgttc  
420  
tacaccctgg agaaggagga ggaagaggat agggacggcc acacctggga cattggggac  
480  
gtacagaagc tgctttccgg agtagaaaga ctcaggaacc ccgacctgat ccaagcaggc  
540  
tactactcct ttggcctcgc taacgagaag agagccaagg agttggaggc cacttttggc  
600  
tgccggatgt caccggacat caaacaggaa ttgctgcgat gcgacataag ttgtaagggc  
660  
ggacattcaa cgggtgacaga cctgcaggag ctgctcggct gtctgtacga gtctcaggag  
720  
gaggagctgg tgaaggaggt gatggctcag ttcaaagaaa tatccctgca cttaaatgca  
780  
gtagacgttg tgccatcttc attctgcgtc aagcactgtc gaaacctgca gaaaatgtca  
840  
ctgcaggtaa taaaggagaa tctcccggag aatgtcactg cgtctgaatc agacgccgag  
900  
gttgagagat cccaggatga tcagcacatg cttcctttct ggacggacct ttgttcata  
960  
tttgatcaa ataaggatct gatgggtcta gcaatcaatg atagctttct cagtgcctcc  
1020  
ctagtaagga tcctgtgtga acaaatagcc tctgacacct gtcacttcca gagagtgggtg  
1080  
ttcaaaaaca tttccccagc tgatgctcat cggaacctcn tgcctnnagc tcttcgaggc  
1140  
cacaagactg taacgtatct gaccttcaa ggcaatgacc aggatgatat gtttcccgca  
1200  
ttgtgtgagg tcttgagaca tccagaatgt aacctgcgat atctcgggtt ggtgtcttgc  
1260  
tccgctacca ctcagcagtg ggctgatctc tccttgggcc ttgaagtcaa ccagtcctgc  
1320  
acgtgcgtaa acctctccga caatgagctt ctggatgagg gtgctaagtt gctgtacaca  
1380  
actttgagac accccaagtg ctttctgcag aggttgtcgt tggaaaactg tcaccttaca  
1440  
gaagccaatt gcaaggacct tgctgctgtg ttggttgta gccgggagct gacacacctg  
1500

tgcttgccca agaaccccat tgggaataca ggggtgaagt ttctgtgtga gggcttgagg  
 1560  
 taccocgagt gtaaactgca gaccttggtg ctttggaaact gcgacataac tagcgatggc  
 1620  
 tgctgcgac tcacaaagct tctccaagaa aaatcaagcc tgttgtgttt ggatctgggg  
 1680  
 ctgaatcaca taggagttaa gggaatgaag ttctgtgtg aggccttgag gaaaccactg  
 1740  
 tgcaacttga gatgtctgtg gttgtgggga tgttccatcc ctccgttcag ttgtgaagac  
 1800  
 gtctgtctg ccctcagctg caaccagagc ctctgctcctc tggacctggg tcagaatccc  
 1860  
 ttgggggtcta gtggagtga gatgctgttt gaaaccttga catgttccag tggcaccctc  
 1920  
 cggacactca ggttgaaaat agatgacttt aatgatgaac tcaataagct gctggaagaa  
 1980  
 atagaagaaa aaaacccaca actgattatt gatactgaga aacatcatcc ctgggaagaa  
 2040  
 aggccttctt ctcatgactt catgatctga atccccccga gtcattcatt ctccatgaag  
 2100  
 tcatcgattt tccaggtgtg ggtgaactgc ctgtgactcc tctcctcccc cgcccctacc  
 2160  
 cctcagggat aatgagttca ttgctgggct agatgtttta gccatgatcc tgcctctgtt  
 2220  
 ttatacctgc acacatcctt atctttgtta catatgaaat atctgtatca cgggtatatt  
 2280  
 gagagaaata aaggtgagag cattcacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2340  
 aaaaaaa  
 2347

<210> 4380  
 <211> 652  
 <212> PRT  
 <213> Homo sapiens

<400> 4380  
 Met Glu Lys Gly Glu Asp Pro Val Pro Thr Cys Leu Thr Arg Thr Gly  
 1 5 10 15  
 Leu Phe Leu Arg Phe Leu Cys Ser Arg Phe Pro Arg Gly Ala Gln Leu  
 20 25 30  
 Arg Gly Ala Leu Arg Thr Leu Ser Leu Leu Ala Ala Gln Gly Leu Trp  
 35 40 45  
 Ala Gln Thr Ser Val Leu His Arg Glu Asp Leu Glu Arg Leu Gly Val  
 50 55 60  
 Gln Glu Ser Asp Leu Arg Leu Phe Leu Asp Gly Asp Ile Leu Arg Gln  
 65 70 75 80  
 Asp Arg Val Ser Lys Gly Cys Tyr Ser Phe Ile His Leu Ser Phe Gln  
 85 90 95  
 Gln Phe Leu Thr Ala Leu Phe Tyr Thr Leu Glu Lys Glu Glu Glu Glu  
 100 105 110  
 Asp Arg Asp Gly His Thr Trp Asp Ile Gly Asp Val Gln Lys Leu Leu  
 115 120 125  
 Ser Gly Val Glu Arg Leu Arg Asn Pro Asp Leu Ile Gln Ala Gly Tyr

130 135 140  
 Tyr Ser Phe Gly Leu Ala Asn Glu Lys Arg Ala Lys Glu Leu Glu Ala  
 145 150 155 160  
 Thr Phe Gly Cys Arg Met Ser Pro Asp Ile Lys Gln Glu Leu Leu Arg  
 165 170 175  
 Cys Asp Ile Ser Cys Lys Gly Gly His Ser Thr Val Thr Asp Leu Gln  
 180 185 190  
 Glu Leu Leu Gly Cys Leu Tyr Glu Ser Gln Glu Glu Glu Leu Val Lys  
 195 200 205  
 Glu Val Met Ala Gln Phe Lys Glu Ile Ser Leu His Leu Asn Ala Val  
 210 215 220  
 Asp Val Val Pro Ser Ser Phe Cys Val Lys His Cys Arg Asn Leu Gln  
 225 230 235 240  
 Lys Met Ser Leu Gln Val Ile Lys Glu Asn Leu Pro Glu Asn Val Thr  
 245 250 255  
 Ala Ser Glu Ser Asp Ala Glu Val Glu Arg Ser Gln Asp Asp Gln His  
 260 265 270  
 Met Leu Pro Phe Trp Thr Asp Leu Cys Ser Ile Phe Gly Ser Asn Lys  
 275 280 285  
 Asp Leu Met Gly Leu Ala Ile Asn Asp Ser Phe Leu Ser Ala Ser Leu  
 290 295 300  
 Val Arg Ile Leu Cys Glu Gln Ile Ala Ser Asp Thr Cys His Leu Gln  
 305 310 315 320  
 Arg Val Val Phe Lys Asn Ile Ser Pro Ala Asp Ala His Arg Asn Leu  
 325 330 335  
 Xaa Pro Xaa Ala Leu Arg Gly His Lys Thr Val Thr Tyr Leu Thr Leu  
 340 345 350  
 Gln Gly Asn Asp Gln Asp Asp Met Phe Pro Ala Leu Cys Glu Val Leu  
 355 360 365  
 Arg His Pro Glu Cys Asn Leu Arg Tyr Leu Gly Leu Val Ser Cys Ser  
 370 375 380  
 Ala Thr Thr Gln Gln Trp Ala Asp Leu Ser Leu Ala Leu Glu Val Asn  
 385 390 395 400  
 Gln Ser Leu Thr Cys Val Asn Leu Ser Asp Asn Glu Leu Leu Asp Glu  
 405 410 415  
 Gly Ala Lys Leu Leu Tyr Thr Thr Leu Arg His Pro Lys Cys Phe Leu  
 420 425 430  
 Gln Arg Leu Ser Leu Glu Asn Cys His Leu Thr Glu Ala Asn Cys Lys  
 435 440 445  
 Asp Leu Ala Ala Val Leu Val Val Ser Arg Glu Leu Thr His Leu Cys  
 450 455 460  
 Leu Ala Lys Asn Pro Ile Gly Asn Thr Gly Val Lys Phe Leu Cys Glu  
 465 470 475 480  
 Gly Leu Arg Tyr Pro Glu Cys Lys Leu Gln Thr Leu Val Leu Trp Asn  
 485 490 495  
 Cys Asp Ile Thr Ser Asp Gly Cys Cys Asp Leu Thr Lys Leu Leu Gln  
 500 505 510  
 Glu Lys Ser Ser Leu Leu Cys Leu Asp Leu Gly Leu Asn His Ile Gly  
 515 520 525  
 Val Lys Gly Met Lys Phe Leu Cys Glu Ala Leu Arg Lys Pro Leu Cys  
 530 535 540  
 Asn Leu Arg Cys Leu Trp Leu Trp Gly Cys Ser Ile Pro Pro Phe Ser  
 545 550 555 560  
 Cys Glu Asp Val Cys Ser Ala Leu Ser Cys Asn Gln Ser Leu Val Thr

Leu	Asp	Leu	Gly	Gln	Asn	Pro	Leu	Gly	Ser	Ser	Gly	Val	Lys	Met	Leu	
			580					585					590			
Phe	Glu	Thr	Leu	Thr	Cys	Ser	Ser	Gly	Thr	Leu	Arg	Thr	Leu	Arg	Leu	
			595				600					605				
Lys	Ile	Asp	Asp	Phe	Asn	Asp	Glu	Leu	Asn	Lys	Leu	Leu	Glu	Glu	Ile	
			610			615					620					
Glu	Glu	Lys	Asn	Pro	Gln	Leu	Ile	Ile	Asp	Thr	Glu	Lys	His	His	Pro	
					630					635					640	
Trp	Glu	Glu	Arg	Pro	Ser	Ser	His	Asp	Phe	Met	Ile					
				645				650								

<210> 4381

<211> 1638

**<212> DNA**

<213> Homo sapiens

<400> 4381

nnagagccccg	gggcgagtg	gcctctgctc	gtgggtggtt	ctcgtggagg	tcagctccccg
60	cgtgtctccg	ctcgacaggg	tgcttgggca	gagcccatcg	ggtaggcgcg
120	cagtacaaagg	gcaccatg	cgaggcaggc	cgtgccatgc	acctcctcaa
180	aggcagcggg	agcagatgga	ggtgctgaag	cagcgcacatcg	ccgaggagac
240	tcgcaggttg	acaagaggtt	ctcggcgcat	tacgacgccc	tggaggccga
300	agcgcggttg	gcctggtgac	cctgaacgac	atgaaggccc	ggcaggaggc
360	gagcgcgagc	ggcagctggc	caagcgccag	cacctggagg	agcagcggct
420	cggcagcggg	agcaggagca	gcggcgcgag	cgcaagcgta	agatctcctg
480	gcactagacg	acctcgatga	ccaggccgac	gcggccgagg	ccaggcgcg
540	ggcaagaacc	ccgacgtgga	caccagcttc	ctgccagacc	gcgaccgcga
600	aaccggctcc	gagaggagct	gcgccaagag	tgggaggcgc	agcgcgagaa
660	gaggagatgg	aggtcacctt	cagctactgg	gacggctcgg	gccaccggcg
720	gtgcgcaagg	gcaacacggt	gcagcagttc	ctgaagaagg	cgctgcaggg
780	gacttcctgg	agctgcgctc	cgccggcg	gagcagctca	tgttcatcaa
840	atcctgccgc	actaccacac	cttctacgac	ttcatcatcg	ccagggcgag
900	gggccgctct	tcagcttcga	tgtgcacgat	gacgtgcgcc	tgctcagcga
960	gagaaggacg	agtcgcacgc	gggcaagg	gtgctgcgca	gctggtacga
1020	cacatcttcc	ccgccagccg	ctgggaggcc	tatgaccccg	agaagaagtg
1080					ggacaagtac

accatccgct aacacccgcc tgccagagcg gaaaccgggg gtggggggag acactcattt  
 1140  
 ctaggcccca tcaccagtca cttgatttcg tgaccttgat ttcttcccc aaatttaata  
 1200  
 aagacagagg gttctcatga ttcacattgg ttgtgctatt gctgatgta tgctttgggt  
 1260  
 gcttggttg tcttttctga gtattttagt gttgccacct ggatttgctg cattgctctg  
 1320  
 ctgagctgta ttgaaacat gactgggccc actgtcagac agaaattaga ataggaggca  
 1380  
 cttttttac ctgggtggta tgagcatgga cttgggggcc acagtgactg agtttgattc  
 1440  
 ccgacacagc ctctccttg ctgtgtagtt ttgggtaagc ttattaaacc cccatgcctc  
 1500  
 agtttggta cctgtaaaag gaaataacaa gagcacttac tttataagat tgatgtgagt  
 1560  
 attaatgaa ttaatatgtg taaaacgctt agctcttaat aaatgtttct gttgttatta  
 1620  
 aaaaaaaaaa aaaaaaaa  
 1638

<210> 4382

<211> 325

<212> PRT

<213> Homo sapiens

<400> 4382

Met	Ala	Gln	Tyr	Lys	Gly	Thr	Met	Arg	Glu	Ala	Gly	Arg	Ala	Met	His
1				5					10					15	
Leu	Leu	Lys	Lys	Arg	Glu	Arg	Gln	Arg	Glu	Gln	Met	Glu	Val	Leu	Lys
			20					25					30		
Gln	Arg	Ile	Ala	Glu	Glu	Thr	Ile	Leu	Lys	Ser	Gln	Val	Asp	Lys	Arg
		35					40					45			
Phe	Ser	Ala	His	Tyr	Asp	Ala	Val	Glu	Ala	Glu	Leu	Lys	Ser	Ser	Ala
	50					55					60				
Val	Gly	Leu	Val	Thr	Leu	Asn	Asp	Met	Lys	Ala	Arg	Gln	Glu	Ala	Leu
65					70					75				80	
Val	Arg	Glu	Arg	Glu	Arg	Gln	Leu	Ala	Lys	Arg	Gln	His	Leu	Glu	Glu
			85						90				95		
Gln	Arg	Leu	Gln	Gln	Glu	Arg	Gln	Arg	Glu	Gln	Glu	Gln	Arg	Arg	Glu
		100						105					110		
Arg	Lys	Arg	Lys	Ile	Ser	Cys	Leu	Ser	Phe	Ala	Leu	Asp	Asp	Leu	Asp
		115					120					125			
Asp	Gln	Ala	Asp	Ala	Ala	Glu	Ala	Arg	Arg	Ala	Gly	Asn	Leu	Gly	Lys
		130				135					140				
Asn	Pro	Asp	Val	Asp	Thr	Ser	Phe	Ile	Pro	Asp	Arg	Asp	Arg	Glu	Glu
145				150						155				160	
Glu	Glu	Asn	Arg	Leu	Arg	Glu	Glu	Leu	Arg	Gln	Glu	Trp	Glu	Ala	Gln
			165						170				175		
Arg	Glu	Lys	Val	Lys	Asp	Glu	Glu	Met	Glu	Val	Thr	Phe	Ser	Tyr	Trp
			180					185					190		
Asp	Gly	Ser	Gly	His	Arg	Arg	Thr	Val	Arg	Val	Arg	Lys	Gly	Asn	Thr
		195					200					205			
Val	Gln	Gln	Phe	Leu	Lys	Lys	Ala	Leu	Gln	Gly	Leu	Arg	Lys	Asp	Phe

```

      210              215              220
Leu Glu Leu Arg Ser Ala Gly Val Glu Gln Leu Met Phe Ile Lys Glu
225              230              235              240
Asp Leu Ile Leu Pro His Tyr His Thr Phe Tyr Asp Phe Ile Ile Ala
      245              250              255
Arg Ala Arg Gly Lys Ser Gly Pro Leu Phe Ser Phe Asp Val His Asp
      260              265              270
Asp Val Arg Leu Leu Ser Asp Ala Thr Met Glu Lys Asp Glu Ser His
      275              280              285
Ala Gly Lys Val Val Leu Arg Ser Trp Tyr Glu Lys Asn Lys His Ile
      290              295              300
Phe Pro Ala Ser Arg Trp Glu Ala Tyr Asp Pro Glu Lys Lys Trp Asp
305              310              315              320
Lys Tyr Thr Ile Arg
      325

```

<210> 4383  
 <211> 419  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4383
cgagatctgg cgtgttttat acagtttgaa aatgtcaaca ttactatgg gactcagcat
60
aaaatgaaat ataaagcgcc cactgactat tgctttgttt taaagcacc ccaaattcag
120
aaggagtccc agtatatcaa gtatctctgc tgtgatgaca caagaaccct taaccagtgg
180
gtcatgggaa tacggatagc caagtatggg aagactctct atgataacta ccagcgggct
240
gtggcaaagg ctggacttgc ctctcgggtg acaaacttgg ggacagtcaa tgcagctgca
300
ccagctcagc catttacagg acctaaaaca ggcaccaccc agcccaatgg acagattccc
360
caggctacac atttcttcag tgctgttctc caagaagccc agagacatgc tgaaaactn
419

```

<210> 4384  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4384
Arg Asp Leu Ala Cys Phe Ile Gln Phe Glu Asn Val Asn Ile Tyr Tyr
1          5          10          15
Gly Thr Gln His Lys Met Lys Tyr Lys Ala Pro Thr Asp Tyr Cys Phe
      20          25          30
Val Leu Lys His Pro Gln Ile Gln Lys Glu Ser Gln Tyr Ile Lys Tyr
      35          40          45
Leu Cys Cys Asp Asp Thr Arg Thr Leu Asn Gln Trp Val Met Gly Ile
      50          55          60
Arg Ile Ala Lys Tyr Gly Lys Thr Leu Tyr Asp Asn Tyr Gln Arg Ala
65          70          75          80
Val Ala Lys Ala Gly Leu Ala Ser Arg Trp Thr Asn Leu Gly Thr Val

```

				85				90					95		
Asn	Ala	Ala	Ala	Pro	Ala	Gln	Pro	Phe	Thr	Gly	Pro	Lys	Thr	Gly	Thr
			100					105					110		
Thr	Gln	Pro	Asn	Gly	Gln	Ile	Pro	Gln	Ala	Thr	His	Phe	Phe	Ser	Ala
		115					120					125			
Val	Leu	Gln	Glu	Ala	Gln	Arg	His	Ala	Glu	Asn					
	130					135									

```
<210> 4385
<211> 754
<212> DNA
<213> Homo sapiens
```

```

<400> 4385
nttttagagga gggctctgggc tagtttattt tctctctgga ggggtcttca gggagagcag
60
tcccggctgc tcaagcgggt gggaaggagc ggccactctt gctgaaaggt ggctgggaga
120
ggtcctggtc agagtcggag tcagagtccc aggaggggag tggagggctc aggcaactggt
180
gcccttgtg gcctcttagg ctcgaggcct tgggacaggc ccccgagcac aaagtgaggc
240
tgtctatgga gttctgcagc acgtgcacag cagaccatat atcactcagt tccttctgga
300
ggtcatcctt ccagcagcca ctggctccct gcggtatctc ttcagtctcc ggacaggcgg
360
ctgtctcatg acctgctgc ttcactcttg tccaggatttt gcggcatttc acctgcgttt
420
tctgcatttt ctgaatgttc accaagttct ctgagatctc atcctcctgc gcttcttcaa
480
gctgctgaat cttgatttgc tgcaagcagc tctccttctc caacatgggt actgagtggg
540
tcaggaactc gaaagccttg gtctgggcct gtaactgggt cttgagtgac ccaagttcac
600
atcgcaggag cttctgggag tcgggaatca tcacaatggg cttggctttg actttggaag
660
agctggtctc caagggtctc acataccacc tgttcatgct ctcccatcag ggaccacgaa
720
gaaagtccctc agctgtgacg ctgaagtttg atca
754

```

```
<210> 4386
<211> 85
<212> PRT
<213> Homo sapiens
```

```

<400> 4386
Gly Cys Leu Trp Ser Ser Ala Ala Arg Ala Gln Gln Thr Ile Tyr His
 1             5             10             15
Ser Val Pro Ser Gly Gly His Pro Ser Ser Ser His Trp Leu Pro Ala
      20             25             30
Val Ser Leu Gln Ser Pro Asp Arg Arg Leu Ser His Asp Pro Ala Ala
      35             40             45
Ser Ser Trp Ser Gly Phe Cys Gly Ile Ser Pro Ala Phe Ser Ala Phe

```

50                      55                      60  
 Ser Glu Cys Ser Pro Ser Ser Leu Arg Ser His Pro Pro Ala Leu Leu  
 65                      70                      75                      80  
 Gln Ala Ala Glu Ser  
                     85

<210> 4387  
 <211> 341  
 <212> DNA  
 <213> Homo sapiens

<400> 4387  
 ggggggggcc ttcccatctt tttccctttt atgggggggg ggttttttaa aaaaaaagg  
 60  
 gggccccccc aaaagggggg ggggggaagg ggggtttccc accccaaaaa accccccccc  
 120  
 cccccgggn ggggggaag gggggggggg tttttcccc ctccccccc ccctaaaaa  
 180  
 aaaaccgga aaatttttt tcccccccc ccaaaaaaa aaaaaaacc ggggggcccc  
 240  
 ccttttttg gggggggggg ttttttttt ttttttttt ttttttttt tttttttac  
 300  
 aaaacagaga atgtttattg tgccagaggg tggagtgtgc n  
 341

<210> 4388  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

<400> 4388  
 Gly Gly Gly Leu Pro Ile Phe Phe Pro Phe Met Gly Gly Gly Phe Phe  
 1                      5                      10                      15  
 Lys Lys Lys Gly Gly Pro Pro Gln Lys Gly Gly Gly Arg Gly Phe  
                     20                      25                      30  
 Ser His Pro Lys Lys Pro Pro Pro Pro Gly Xaa Gly Gly Arg Gly  
                     35                      40                      45  
 Gly Gly Phe Phe Pro Pro Pro Pro Pro Lys Lys Lys Thr Arg Lys  
 50                      55                      60  
 Ile Phe Phe Pro Pro Pro Lys Lys Lys Lys Lys Pro Gly Gly Pro  
 65                      70                      75                      80  
 Pro Phe Phe Gly Gly Gly Gly Phe Phe Phe Phe Phe Phe Phe Phe  
                     85                      90                      95  
 Phe Phe Phe Tyr Lys Thr Glu Asn Val Tyr Cys Ala Arg Gly Trp Ser  
                     100                      105                      110  
 Val

<210> 4389  
 <211> 1895  
 <212> DNA  
 <213> Homo sapiens

<400> 4389



nggtgttttg cgggctgccg tacagcgaag agcgcgtgct gaagagttgc gcgtggcgtg  
60  
gctgccgagg gccgcgcggt gtacgtggtg gacgacgcag ctgtcctggg cgcagaggac  
120  
ccagcgggtg acggcgattc tgcccgtgag aaggcattgc gtggagctct gcgagcctcc  
180  
gtggaacgac gcctgagtcg ccacgacgtc gtcacacctg actcgcttaa ctacatcaaa  
240  
ggtttccgtt acgagctcta ctgcctggca cgggcggcgc gcaccccgct ctgcctggtc  
300  
tactgcgtac ggccccggcg cccgatcgcg ggacctcagg tggcggggcg gaacgagaac  
360  
cctggccgga acgtcagtggt gaggttggcg ccacgcgctg aggaggacgg gagagcccag  
420  
gcggcgggca gcagcgtcct cagggaactg catactgcgg actctgtagt aaatggaagt  
480  
gcccaggccg acgtacccaa ggaactggag cgagaagaat ccggggctgc ggagtctcca  
540  
gctcttgtga ctccggattc agagaaatct gcaaagcatg ggtccggtgc cttttactct  
600  
cccgaactcc tggaggccct aacgctgcgc tttgaggctc ccgattctcg gaatcgctgg  
660  
gaccggcctt tattcacttt ggtgggcata gaggagccgt tgcccccggc ggggatccgc  
720  
tctgccctgt ttgagaaccg ggccccacca ccccatcagt ctacgcagtc ccagcccctc  
780  
gcctccggca gctttctgca ccagttggac caggtcacga gtcaagtact ggccggattg  
840  
atggaagcgc agaagagcgc tgtccccggg gacttgctca cgcttcctgg taccacagag  
900  
cacttgcggt ttaccggcc cttgaccatg gcagaactga gtcgccttcg tcgccagttt  
960  
atttcgtaca ctaaaatgca tcccaacaat gagaacttgc cgcaactggc caacatgttt  
1020  
cttcagtatt tgagccagag cctgcactaa ccagaggagg taggggggaa gccatggctt  
1080  
ctgatctcca ctccacttta tttctctggg aaaaataggc tgcaggtctc cagagcatat  
1140  
cgatgcagta ctgtactaga gctgttgtga ctgattcact caaactttcc tgcatacccc  
1200  
tgtgccaggc cttgggttta cagcataagt tcagactaaa gagaatggag aactattgtg  
1260  
gtgcaacctg gcaaatccct cagaggacag agctaagggtg gacagggatt acctagattg  
1320  
gatcctactt gggctatcac agagcattga ccattggctt ccctcatctg aggcgtggga  
1380  
gagcagactg gatagatgag aattgtttta aaacaattgt gaacagaaac tgaagatggt  
1440  
acagttctac atctgcacct gccctttttt cataccacaa aagtattttt tgagtactgt  
1500  
actgactttt tgctagtttc tattctggga ccgagttcac agataaatcc attggtttgt  
1560  
atccttgaga aactttgttt ttgtggaagt aagaaagtta tctactagat tatttcctct  
1620

aataaaatct tttaaaatag tctactggaa tctctttcac ttaatgttcc ctgtgtaact  
1680  
tcatgtaaca ttttaggtat acttgtcatt gttctgcctt taagtgaagt agtattttga  
1740  
tagttctgag agagtagatg ttttgagcta ctctacagta attatattat gacaatttcc  
1800  
gtaactgttt tgcttcattc tgcatttcaa ggcaaataac attgtaagct tgtctttcat  
1860  
tcttcattga tttcattgaa caaatggtag gtacc  
1895

<210> 4390

<211> 335

<212> PRT

<213> Homo sapiens

<400> 4390

Arg	Val	Ala	Arg	Gly	Val	Ala	Ala	Glu	Gly	Arg	Ala	Val	Tyr	Val	Val
1				5				10					15		
Asp	Asp	Ala	Ala	Val	Leu	Gly	Ala	Glu	Asp	Pro	Ala	Val	Tyr	Gly	Asp
		20						25					30		
Ser	Ala	Arg	Glu	Lys	Ala	Leu	Arg	Gly	Ala	Leu	Arg	Ala	Ser	Val	Glu
		35				40						45			
Arg	Arg	Leu	Ser	Arg	His	Asp	Val	Val	Ile	Leu	Asp	Ser	Leu	Asn	Tyr
		50				55					60				
Ile	Lys	Gly	Phe	Arg	Tyr	Glu	Leu	Tyr	Cys	Leu	Ala	Arg	Ala	Ala	Arg
65				70					75					80	
Thr	Pro	Leu	Cys	Leu	Val	Tyr	Cys	Val	Arg	Pro	Gly	Gly	Pro	Ile	Ala
			85					90						95	
Gly	Pro	Gln	Val	Ala	Gly	Ala	Asn	Glu	Asn	Pro	Gly	Arg	Asn	Val	Ser
			100					105					110		
Val	Ser	Trp	Arg	Pro	Arg	Ala	Glu	Glu	Asp	Gly	Arg	Ala	Gln	Ala	Ala
		115					120					125			
Gly	Ser	Ser	Val	Leu	Arg	Glu	Leu	His	Thr	Ala	Asp	Ser	Val	Val	Asn
		130				135					140				
Gly	Ser	Ala	Gln	Ala	Asp	Val	Pro	Lys	Glu	Leu	Glu	Arg	Glu	Glu	Ser
145				150					155					160	
Gly	Ala	Ala	Glu	Ser	Pro	Ala	Leu	Val	Thr	Pro	Asp	Ser	Glu	Lys	Ser
			165					170						175	
Ala	Lys	His	Gly	Ser	Gly	Ala	Phe	Tyr	Ser	Pro	Glu	Leu	Leu	Glu	Ala
		180					185						190		
Leu	Thr	Leu	Arg	Phe	Glu	Ala	Pro	Asp	Ser	Arg	Asn	Arg	Trp	Asp	Arg
		195					200						205		
Pro	Leu	Phe	Thr	Leu	Val	Gly	Ile	Glu	Glu	Pro	Leu	Pro	Pro	Ala	Gly
	210					215					220				
Ile	Arg	Ser	Ala	Leu	Phe	Glu	Asn	Arg	Ala	Pro	Pro	Pro	His	Gln	Ser
225				230					235					240	
Thr	Gln	Ser	Gln	Pro	Leu	Ala	Ser	Gly	Ser	Phe	Leu	His	Gln	Leu	Asp
			245					250						255	
Gln	Val	Thr	Ser	Gln	Val	Leu	Ala	Gly	Leu	Met	Glu	Ala	Gln	Lys	Ser
		260						265					270		
Ala	Val	Pro	Gly	Asp	Leu	Leu	Thr	Leu	Pro	Gly	Thr	Thr	Glu	His	Leu
		275					280						285		
Arg	Phe	Thr	Arg	Pro	Leu	Thr	Met	Ala	Glu	Leu	Ser	Arg	Leu	Arg	Arg

290		295		300
Gln Phe Ile Ser Tyr Thr Lys Met His Pro Asn Asn Glu Asn Leu Pro				
305		310		315
Gln Leu Ala Asn Met Phe Leu Gln Tyr Leu Ser Gln Ser Leu His				320
	325		330	335

<210> 4391  
 <211> 988  
 <212> DNA  
 <213> Homo sapiens

<400> 4391  
 nageccttct cctggcccca tggagcctcc ccacgagccc aggggcatcc gagcatgggc  
 60  
 ggcccaatgc agaggggtgac gcctcctcgt ggcatggcca gcgtggggcc ccagagctat  
 120  
 ggaggtggca tgcgaccccc acccaactcc ctgcgcggcc caggcctgcc tgccatgaac  
 180  
 atgggcccag gagttcgtgg ccctggggcc agccccagtg gaaactcgat cccctactcc  
 240  
 tcctcatccc ccggcagcta caccggaccc ccaggaggag gtgggcccccc tggaacaccc  
 300  
 atcatgccta gccctggaga ttccaccaac tccagcgaac acatgtacac tatcatgaac  
 360  
 cccatcgggc agggcgccgg cagggttaat ttcccgctcg gccctggccc ggagggcccc  
 420  
 atggccgcca tgagcgcgat ggagcctcac cacgtgaacg gatccctggg ctcgggcgac  
 480  
 atggacgggt tgccgaagag ttcccccgcc gccgtggccg gcctgagcaa cggccccggc  
 540  
 accccgcggg acgacggcga gatggcgggc gccgggacct tcctgcaccc gttcccgagc  
 600  
 gaaagctact cgccaggat gaccatgagc gtgtgatggg gcggcagccc cgggcctctc  
 660  
 tgcgggccta ggcttctgcc cagcgcccct gctcaggcg aggggctgag gtcacacctc  
 720  
 gggcacctgg actcctggcc aatcaaggct tgcccagctg ggaggcccca cacgaaagac  
 780  
 tcttaccatt ttattaaaaa cgcaaggacc tcagagacgt tcttttctgt atggaccctt  
 840  
 cctgccattt gtattttgtc ccagagagaa aggtcttttg gggggcccct ctccccagga  
 900  
 cgtcaggggg tggggcccat aaataaatgg aagctggttt tggtttttgg taaaaaaaaa  
 960  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 988

<210> 4392  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 4392  
 Xaa Pro Phe Ser Trp Pro His Gly Ala Ser Pro Arg Ala Gln Gly His

1		5		10		15									
Pro	Ser	Met	Gly	Pro	Met	Gln	Arg	Val	Thr	Pro	Pro	Arg	Gly	Met	
		20				25						30			
Ala	Ser	Val	Gly	Pro	Gln	Ser	Tyr	Gly	Gly	Met	Arg	Pro	Pro	Pro	
		35				40					45				
Asn	Ser	Leu	Ala	Gly	Pro	Gly	Leu	Pro	Ala	Met	Asn	Met	Gly	Pro	Gly
		50				55					60				
Val	Arg	Gly	Pro	Trp	Ala	Ser	Pro	Ser	Gly	Asn	Ser	Ile	Pro	Tyr	Ser
65					70					75				80	
Ser	Ser	Ser	Pro	Gly	Ser	Tyr	Thr	Gly	Pro	Pro	Gly	Gly	Gly	Gly	Pro
				85					90				95		
Pro	Gly	Thr	Pro	Ile	Met	Pro	Ser	Pro	Gly	Asp	Ser	Thr	Asn	Ser	Ser
			100					105					110		
Glu	Asn	Met	Tyr	Thr	Ile	Met	Asn	Pro	Ile	Gly	Gln	Gly	Ala	Gly	Arg
		115					120					125			
Ala	Asn	Phe	Pro	Leu	Gly	Pro	Gly	Pro	Glu	Gly	Pro	Met	Ala	Ala	Met
		130				135					140				
Ser	Ala	Met	Glu	Pro	His	His	Val	Asn	Gly	Ser	Leu	Gly	Ser	Gly	Asp
145					150					155				160	
Met	Asp	Gly	Leu	Pro	Lys	Ser	Ser	Pro	Gly	Ala	Val	Ala	Gly	Leu	Ser
			165						170				175		
Asn	Ala	Pro	Gly	Thr	Pro	Arg	Asp	Asp	Gly	Glu	Met	Ala	Ala	Ala	Gly
		180					185					190			
Thr	Phe	Leu	His	Pro	Phe	Pro	Ser	Glu	Ser	Tyr	Ser	Pro	Gly	Met	Thr
		195					200					205			
Met	Ser	Val													
		210													

&lt;210&gt; 4393

&lt;211&gt; 2171

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4393

gaggccaccc gccccggggc ctgggctcgc tgtggactcg tcatggcgac cgagcagagg  
60  
cctttccacc tgggtggtgtt cggcgcgctt ggcttcaccg gccagttcgt gaccgaggag  
120  
gtggcccggg agcaggtgga cccggagcgg agctcccctg ccctgggcgt ggcgggcccgc  
180  
tcccgggaga agctgcagcg ggtgctggag aaggcggccc tgaagctggg aagaccaaca  
240  
ctgtcatctg aagttggaat catcatctgt gatattgcta atccagcctc gcttgatgaa  
300  
atggctaaac aggcaacagt tgctctcaat tgcgtaggac catatcggtt ttatggagaa  
360  
cctgtaataa aagcatgtat tgaaaatgga gccagttgta tcgacatcag tggagaacct  
420  
cagtttctgg aactaatgca actgaagtat catgagaaag ctgcagacaa aggggtttat  
480  
atcattggaa gcagcggcctt tgactccatt ccagcagatc tgggagtaat atataccaga  
540  
aataaaaatga atggtacttt gactgctgtg gaaagtttcc tgactataca ttcaggacct  
600

gaggggttga gcattcatga tggtagcttg aagtcagcaa tttatgggtt tggagatcag  
660  
agtaatttga gaaaactaag aaatgtatca aatctgaaac ctgtcccgct cattgggtcca  
720  
aaattgaaga gaaggtggcc aatttcttat tgtcgggaac tcaaagggtta ttccattcct  
780  
tttatgggat ctgatgtgtc tgttgtaagg aggactcaac gttacttgta tgaaaattta  
840  
gaggaatcac cagttcagta tgctgcgtat gtaactgttg gaggcacac ctctgttatt  
900  
aagctgatgt ttgcaggact tttctttttg ttctttgtga ggtttggaat tggaaggcaa  
960  
cttctcataa aattcccatg gttcttctcc tttggctatt tttcaaaaca aggcccaaca  
1020  
caaaaacaga ttgatgctgc ctcatcacg ctgacattct ttggtcaagg atacagccaa  
1080  
ggcactggta cagataagaa caaaccaaat atcaaaattt gtactcaggt gaaaggacca  
1140  
gaggctggct atgtggctac ccccatagct atgggtcagg cagccatgac tcttctaagt  
1200  
gatgcttctc atctgcctaa ggcggggcggg gtcttcacac ctggagcagc tttttccaaa  
1260  
acaaagtga ttgacagact caacaaacac ggtattgagt ttagtggtat tagcagctct  
1320  
gaagtctaaa cactggaaga attaaactgaa gtcataacgt gcgtgaatta acagcttctc  
1380  
tatttgatat ttgaaattct tctgtaagcc tgtctgagtg tatgtggaaa cgattgtcaa  
1440  
atctaaaata tctatatatt aaaaagtagg aaattgtcct agcttaccct aaatttcaaa  
1500  
tctgagttga ttttgtgatt ttattgctta taacagagaa ctcatatttg acatattttt  
1560  
ttcattgatg tgttcttggt agattttcac gaatgagctg gcagggtctaa tgggggaggg  
1620  
ggcgtcccg tctgtgttgc agcagcattc tcatcggggg tgcgcacacc atcgttactg  
1680  
tcgggcagta actgccgctt gccttgccgc agtaggaggg aaatctcacc ttccttccac  
1740  
atactgtctt gagcctttgc taaattaaac tgcacttttt gctgtttttg cctagttttt  
1800  
cgccaatcta cactgatttt ggactgttac ctaagttgaa aaataaaagg ttgtcaatcg  
1860  
aatgggtggt taatgttttg acctgccgat gtatttgtat agtggtagaa acatgctgct  
1920  
taagtggcct aacctgtttc ttgccaataa gtaggcttat cattttatct ttacgtaatt  
1980  
ctatatctgt gactaggttt ttaaggatac agcttataag ttgctatcaa ttttactac  
2040  
ctaagcagaa tttttctcta atttactttt tgtattttta ctagggttta catggaagcc  
2100  
ctaaaataag gcaaaagact ttttcttttg taataagcat ataataaaca cgtatataca  
2160  
tagcaaattg a  
2171

<210> 4394  
 <211> 428  
 <212> PRT  
 <213> Homo sapiens

<400> 4394

```

Met Ala Thr Glu Gln Arg Pro Phe His Leu Val Val Phe Gly Ala Ser
 1          5          10          15
Gly Phe Thr Gly Gln Phe Val Thr Glu Glu Val Ala Arg Glu Gln Val
 20          25          30
Asp Pro Glu Arg Ser Ser Pro Ala Leu Gly Val Ala Gly Arg Ser Arg
 35          40          45
Glu Lys Leu Gln Arg Val Leu Glu Lys Ala Ala Leu Lys Leu Gly Arg
 50          55          60
Pro Thr Leu Ser Ser Glu Val Gly Ile Ile Ile Cys Asp Ile Ala Asn
 65          70          75          80
Pro Ala Ser Leu Asp Glu Met Ala Lys Gln Ala Thr Val Val Leu Asn
 85          90          95
Cys Val Gly Pro Tyr Arg Phe Tyr Gly Glu Pro Val Ile Lys Ala Cys
100          105          110
Ile Glu Asn Gly Ala Ser Cys Ile Asp Ile Ser Gly Glu Pro Gln Phe
115          120          125
Leu Glu Leu Met Gln Leu Lys Tyr His Glu Lys Ala Ala Asp Lys Gly
130          135          140
Val Tyr Ile Ile Gly Ser Ser Gly Phe Asp Ser Ile Pro Ala Asp Leu
145          150          155          160
Gly Val Ile Tyr Thr Arg Asn Lys Met Asn Gly Thr Leu Thr Ala Val
165          170          175
Glu Ser Phe Leu Thr Ile His Ser Gly Pro Glu Gly Leu Ser Ile His
180          185          190
Asp Gly Thr Trp Lys Ser Ala Ile Tyr Gly Phe Gly Asp Gln Ser Asn
195          200          205
Leu Arg Lys Leu Arg Asn Val Ser Asn Leu Lys Pro Val Pro Leu Ile
210          215          220
Gly Pro Lys Leu Lys Arg Arg Trp Pro Ile Ser Tyr Cys Arg Glu Leu
225          230          235          240
Lys Gly Tyr Ser Ile Pro Phe Met Gly Ser Asp Val Ser Val Val Arg
245          250          255
Arg Thr Gln Arg Tyr Leu Tyr Glu Asn Leu Glu Glu Ser Pro Val Gln
260          265          270
Tyr Ala Ala Tyr Val Thr Val Gly Gly Ile Thr Ser Val Ile Lys Leu
275          280          285
Met Phe Ala Gly Leu Phe Phe Leu Phe Phe Val Arg Phe Gly Ile Gly
290          295          300
Arg Gln Leu Leu Ile Lys Phe Pro Trp Phe Phe Ser Phe Gly Tyr Phe
305          310          315          320
Ser Lys Gln Gly Pro Thr Gln Lys Gln Ile Asp Ala Ala Ser Phe Thr
325          330          335
Leu Thr Phe Phe Gly Gln Gly Tyr Ser Gln Gly Thr Gly Thr Asp Lys
340          345          350
Asn Lys Pro Asn Ile Lys Ile Cys Thr Gln Val Lys Gly Pro Glu Ala
355          360          365
Gly Tyr Val Ala Thr Pro Ile Ala Met Val Gln Ala Ala Met Thr Leu

```

370		375		380	
Leu Ser Asp Ala Ser His Leu Pro Lys Ala Gly Gly Val Phe Thr Pro					
385		390		395	400
Gly Ala Ala Phe Ser Lys Thr Lys Leu Ile Asp Arg Leu Asn Lys His					
	405		410		415
Gly Ile Glu Phe Ser Val Ile Ser Ser Ser Glu Val					
	420		425		

&lt;210&gt; 4395

&lt;211&gt; 1893

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4395

```

natgtgtccc caattcttga aggaaaaaga gagctgtggg cttccagggc gactcccttc
60
acatccgtgg tatctgtctc tccctgcccc atgccaaggc ccaggaggtg tgaatggctc
120
ccttctcctc tgcaggcgct gaggatcacg catcctgtga ctctcccctg tcccccgcca
180
ccctctgaac cactggccac catggctact tcaaagttgc ccgtgggtgcc tggggaggag
240
gaaaacacca tccttatggc caaggaaagg ctggaggccc tgcgcacagc ctttgagtcg
300
ggtgacctcc cccaggccgc ctctcacctc caggagctgc tggcctccac ggaaagcatc
360
cgcttgaggg tgggcgtcac gggcgagtcg ggcgcgggca agtcctccct catcaatgcc
420
ctgcgtggcc tggaggccga ggacctggc gcggtctctca cgggcgtcat ggagaccacg
480
atgcaaccgt cgccctatcc acaccacag ttccctgacg tgacctctg ggacctgcca
540
ggagccggct ctccaggctg cccggctgac aagtaccta agcaggtaga cttcagccgc
600
tatgacttct tcctgctggt ctccccccgc cgctgcgggg ccgtcgagac ccgctggcc
660
gctgagatcc tgtgccaggg caagaagttc tactttgtgc gcaccaaggt ggacgaggac
720
ctggcggcca cgcgcaccca ggcgcgctcg ggcttcagag aggccgctgt cctgcaggag
780
atccgagacc actgtgccga gcggtgcg gaggccggcg tggctgaccc tcgcatcttc
840
ctggtgtcca acctctcgcc ggcccgtac gactttccca cgctgggtgc cacctgggag
900
cacgacctgc cctcccaccg gcgccacgct ggctgctgt cgctccccga catctcgctg
960
gaggccttgc agaagaagaa ggccatgctt caagagcaag tcctcaagac cgccctgggtg
1020
ttgggcgtca tccaggccct gccggtccca gggctggcgg ccgcctacga tgatgcgttg
1080
ctcatccact cactgctgg ctaccaccgc agctttggtc tggacgacga ctcgctggcc
1140
aagctggccg agcaggtggg caaacaggca ggtgacctgc gctcggtcat ccgctcccca
1200

```

ctggccaacg aggtctcgcc tgagactgtc ctgcggctct attcccagtc gtccgacggc  
 1260  
 gccatgcggg tggcccgcgc ctttgagagg ggcacccctg tgtttgggac gctgggtggt  
 1320  
 ggccggcatca gctttggcgc tgtctacacc atgctccagg gctgcctcaa cgagatggct  
 1380  
 gaggacgccc agcgtgtccg catcaaggcc ctggaggatg acgagccgca gccggaggtc  
 1440  
 agcttgaag tggccagtga caatggcgtg gaaaaggggg gctccgggga gggagggtgg  
 1500  
 gaggaagccc cactctcaac ctgcaggaag ctccggcctcc ttcttaagta cattctggac  
 1560  
 agctggaaga aacacgactc agaagagaaa taaagagtgc agccccgccc cctgcctca  
 1620  
 cccacaaact aagtcttaac aaaatccaaa ttaccaacaa aaaaggccga tgtggtgaat  
 1680  
 gtgagggtg cagttgcctg ggggggtgggt gtggaggag cctgtgtccc tggcaggcag  
 1740  
 gggagccggc gtcctgggca gggcaaagga gggggcactg gggaggggag gaggaggga  
 1800  
 ggtgggcccc gggccaacag ggggtgtagt aaaggggaca ggagtgcctt ggagaggag  
 1860  
 gttggagaca tggatggtgg gcccagggtt .ccc  
 1893

&lt;210&gt; 4396

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4396

Met	Ala	Thr	Ser	Lys	Leu	Pro	Val	Val	Pro	Gly	Glu	Glu	Glu	Asn	Thr
1				5					10					15	
Ile	Leu	Met	Ala	Lys	Glu	Arg	Leu	Glu	Ala	Leu	Arg	Thr	Ala	Phe	Glu
			20					25					30		
Ser	Gly	Asp	Leu	Pro	Gln	Ala	Ala	Ser	His	Leu	Gln	Glu	Leu	Leu	Ala
		35				40					45				
Ser	Thr	Glu	Ser	Ile	Arg	Leu	Glu	Val	Gly	Val	Thr	Gly	Glu	Ser	Gly
	50				55					60					
Ala	Gly	Lys	Ser	Ser	Leu	Ile	Asn	Ala	Leu	Arg	Gly	Leu	Glu	Ala	Glu
65					70				75					80	
Asp	Pro	Gly	Ala	Ala	Leu	Thr	Gly	Val	Met	Glu	Thr	Thr	Met	Gln	Pro
			85					90					95		
Ser	Pro	Tyr	Pro	His	Pro	Gln	Phe	Pro	Asp	Val	Thr	Leu	Trp	Asp	Leu
			100					105					110		
Pro	Gly	Ala	Gly	Ser	Pro	Gly	Cys	Pro	Ala	Asp	Lys	Tyr	Leu	Lys	Gln
		115				120						125			
Val	Asp	Phe	Ser	Arg	Tyr	Asp	Phe	Phe	Leu	Leu	Val	Ser	Pro	Arg	Arg
	130				135						140				
Cys	Gly	Ala	Val	Glu	Thr	Arg	Leu	Ala	Ala	Glu	Ile	Leu	Cys	Gln	Gly
145					150					155				160	
Lys	Lys	Phe	Tyr	Phe	Val	Arg	Thr	Lys	Val	Asp	Glu	Asp	Leu	Ala	Ala
			165					170					175		
Thr	Arg	Thr	Gln	Arg	Pro	Ser	Gly	Phe	Arg	Glu	Ala	Ala	Val	Leu	Gln



180 185 190  
 Glu Ile Arg Asp His Cys Ala Glu Arg Leu Arg Glu Ala Gly Val Ala  
 195 200 205  
 Asp Pro Arg Ile Phe Leu Val Ser Asn Leu Ser Pro Ala Arg Tyr Asp  
 210 215 220  
 Phe Pro Thr Leu Val Ser Thr Trp Glu His Asp Leu Pro Ser His Arg  
 225 230 235 240  
 Arg His Ala Gly Leu Leu Ser Leu Pro Asp Ile Ser Leu Glu Ala Leu  
 245 250 255  
 Gln Lys Lys Lys Ala Met Leu Gln Glu Gln Val Leu Lys Thr Ala Leu  
 260 265 270  
 Val Leu Gly Val Ile Gln Ala Leu Pro Val Pro Gly Leu Ala Ala Ala  
 275 280 285  
 Tyr Asp Asp Ala Leu Leu Ile His Ser Leu Arg Gly Tyr His Arg Ser  
 290 295 300  
 Phe Gly Leu Asp Asp Asp Ser Leu Ala Lys Leu Ala Glu Gln Val Gly  
 305 310 315 320  
 Lys Gln Ala Gly Asp Leu Arg Ser Val Ile Arg Ser Pro Leu Ala Asn  
 325 330 335  
 Glu Val Ser Pro Glu Thr Val Leu Arg Leu Tyr Ser Gln Ser Ser Asp  
 340 345 350  
 Gly Ala Met Arg Val Ala Arg Ala Phe Glu Arg Gly Ile Pro Val Phe  
 355 360 365  
 Gly Thr Leu Val Ala Gly Gly Ile Ser Phe Gly Ala Val Tyr Thr Met  
 370 375 380  
 Leu Gln Gly Cys Leu Asn Glu Met Ala Glu Asp Ala Gln Arg Val Arg  
 385 390 395 400  
 Ile Lys Ala Leu Glu Asp Asp Glu Pro Gln Pro Glu Val Ser Leu Glu  
 405 410 415  
 Val Ala Ser Asp Asn Gly Val Glu Lys Gly Gly Ser Gly Glu Gly Gly  
 420 425 430  
 Gly Glu Glu Ala Pro Leu Ser Thr Cys Arg Lys Leu Gly Leu Leu Leu  
 435 440 445  
 Lys Tyr Ile Leu Asp Ser Trp Lys Lys His Asp Ser Glu Glu Lys  
 450 455 460

<210> 4397  
 <211> 2543  
 <212> DNA  
 <213> Homo sapiens

<400> 4397  
 nccggccccc gctccgggga gcagagtccg gagcgggatc cgcggccac aggttgcgag  
 60  
 gggcggtggtt gaagaatgtg tgggcgaaca tcctgtcact tacctagaga tgttctcacg  
 120  
 agagcttgcg cctaccagga tcggcggggc cagcagcggc tcccggagtg gagggaccct  
 180  
 gataagtact gccctctta caacaagagt cctcaatcca acagcccagt gcttctgtct  
 240  
 cgactgcact ttgagaagga tgcagactca tctgagcgta tcattgctcc catgcgctgg  
 300  
 ggcttggtcc cttcttggtt caaagaaagt gatccttcca agctgcagtt caatactacc  
 360

aactgtcgta gtgataccgt aatggagaaa cggtcattta aggtgcctct gggaaagggg  
420  
agacgctgtg tcgttttagc agatggattc tatgagtggc agcgatgtca gggacaacaa  
480  
cagaggcagc catacttcat ctattttcct caaatcaaga cagagaagtc aggtagcatt  
540  
ggtgctgcag atagtccctga gaactgggag aaagtctggg acaactggag gctgctgaca  
600  
atggccggga tctttgactg ctgggagccc ccagagggag gagatgtcct gtattcctat  
660  
accatcatca cagtggattc ctgcaaaggc ttgagtgaca tccaccacag gatgcctgcc  
720  
atattagatg gagaggaggc agtttctaaa tggcttgact ttgggtgaagt ctcaactcag  
780  
gaagctctga aattaatcca cccaacagag aacatcacct tccatgcagt ctcttctgtg  
840  
gtgaacaact cgcgaaacaa cactcctgag tgtctggctc ctgtcgactt ggtgggtcaaa  
900  
aaggagctca gggcaagtgg cagtagccag aggatgttgc agtgggtggc cacaaagtca  
960  
cccaaaaagg aagactcaaa aacacctcaa aaggaagagt cagatgttcc ccagtgggcc  
1020  
agtcagttcc tgcagaagag tccactcccc accaagagag gcaactgcagg actcctagag  
1080  
caatggctga agcgggagaa ggaggaggaa cctgtggcca agcgtcctta cagccagtga  
1140  
cacaggactt tcagagacca aggccagggt ctgctgcact gctgttctga taataggttc  
1200  
ttaacattgt atgtatatgt gtttgctttg ggaggagggt gcaactgtgtt agttgacagt  
1260  
tgtgggtca tgtagtcttt tttgccatga gtaggagccc ctagtggggc tggaggacag  
1320  
ctttggaaga ggtgtcctgc tgctgttacc agccatgtgg gcccacatagg ggcactgcgc  
1380  
ctgctgccct ttcctggcag ggctgggtga gtcttccctc aaagcatgcc ttaccagct  
1440  
gggaagtctc tgccctgac tggtactcct tgtagtaagc tgttttctgc tcagccactg  
1500  
ggctctttca cttttttagt tcttaaaaaat ttatttttaa gttctaaaat aaaataaaaa  
1560  
taagtctcta aaatttatct ttttcctgaa taaattgtat ttggtaaact tctgcctaca  
1620  
ttttggaaag tgatgctggg ggggaaagtt ctagatctta cttggtttct tctagaatca  
1680  
gtcttcagga atggattttg tcacaaatgg ggcagggggg ctttctgagg aaataactac  
1740  
aagtcttggg ggtgggctcc ttattatgtt tctttttctt tcattcttga tacttggaag  
1800  
tcgtctgaat ccttttagctt caaaccagcc tgagtttgag tgcttgccgt agcagaaact  
1860  
atccttacca cagggtgggaa ggaaaggacc agtttctagc agtgtcgggc cactcctctt  
1920  
tcgaacatcc ctaaggaggg cattcacaaa agctgtccca agcagctgga agaaaacagc  
1980

ttccgagatg accaggagga ctgggcggcg ccgagcccag aacgctcctg gcgcagcacc  
 2040  
 gttggcgttg gccgattgct gctggtgggg ggcgggggtg caggccccag tctctatgca  
 2100  
 aatcagggat cagaagatcg gaatttcac caatcagcgg gaagcctcgg ccttctaact  
 2160  
 gctaattggga gacagcagcg ccacgccaca ggcttttccc ctggtttcgg gaggggtggg  
 2220  
 gagccaggtg gggctcccg cccagaccctt tcccagagtc cgcctctctc gccttttctc  
 2280  
 taaattcctc ttttgagtgc cctcccttcc ggttgagagg cgggggttgg cccgtagtgtg  
 2340  
 tacactcagt caccctgcac tgtggaggcg ggggcctccc ttgtggactg atttgcgttg  
 2400  
 gatttggttg ttttattaag agatttaaaa aattcagatg acttactagt atgactgttt  
 2460  
 tgtcatatgt gcttccaggt taataaatga caaaaatgaa aaaaaaaaaa aaaaaaaaaa  
 2520  
 aaaaaaaaaa aaaaaaaaaa aaa  
 2543

<210> 4398

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4398

Met	Cys	Gly	Arg	Thr	Ser	Cys	His	Leu	Pro	Arg	Asp	Val	Leu	Thr	Arg
1				5					10					15	
Ala	Cys	Ala	Tyr	Gln	Asp	Arg	Arg	Gly	Gln	Gln	Arg	Leu	Pro	Glu	Trp
			20					25					30		
Arg	Asp	Pro	Asp	Lys	Tyr	Cys	Pro	Ser	Tyr	Asn	Lys	Ser	Pro	Gln	Ser
		35					40					45			
Asn	Ser	Pro	Val	Leu	Leu	Ser	Arg	Leu	His	Phe	Glu	Lys	Asp	Ala	Asp
	50					55				60					
Ser	Ser	Glu	Arg	Ile	Ile	Ala	Pro	Met	Arg	Trp	Gly	Leu	Val	Pro	Ser
65				70					75					80	
Trp	Phe	Lys	Glu	Ser	Asp	Pro	Ser	Lys	Leu	Gln	Phe	Asn	Thr	Thr	Asn
			85					90					95		
Cys	Arg	Ser	Asp	Thr	Val	Met	Glu	Lys	Arg	Ser	Phe	Lys	Val	Pro	Leu
			100					105					110		
Gly	Lys	Gly	Arg	Arg	Cys	Val	Val	Leu	Ala	Asp	Gly	Phe	Tyr	Glu	Trp
	115						120					125			
Gln	Arg	Cys	Gln	Gly	Thr	Asn	Gln	Arg	Gln	Pro	Tyr	Phe	Ile	Tyr	Phe
	130					135					140				
Pro	Gln	Ile	Lys	Thr	Glu	Lys	Ser	Gly	Ser	Ile	Gly	Ala	Ala	Asp	Ser
145					150				155					160	
Pro	Glu	Asn	Trp	Glu	Lys	Val	Trp	Asp	Asn	Trp	Arg	Leu	Leu	Thr	Met
			165					170						175	
Ala	Gly	Ile	Phe	Asp	Cys	Trp	Glu	Pro	Pro	Glu	Gly	Gly	Asp	Val	Leu
		180						185					190		
Tyr	Ser	Tyr	Thr	Ile	Ile	Thr	Val	Asp	Ser	Cys	Lys	Gly	Leu	Ser	Asp
	195						200					205			
Ile	His	His	Arg	Met	Pro	Ala	Ile	Leu	Asp	Gly	Glu	Glu	Ala	Val	Ser

210		215		220
Lys Trp Leu Asp Phe Gly Glu Val Ser Thr Gln Glu Ala Leu Lys Leu				
225		230		235
Ile His Pro Thr Glu Asn Ile Thr Phe His Ala Val Ser Ser Val Val				
	245		250	255
Asn Asn Ser Arg Asn Asn Thr Pro Glu Cys Leu Ala Pro Val Asp Leu				
	260		265	270
Val Val Lys Lys Glu Leu Arg Ala Ser Gly Ser Ser Gln Arg Met Leu				
	275		280	285
Gln Trp Leu Ala Thr Lys Ser Pro Lys Lys Glu Asp Ser Lys Thr Pro				
	290		295	300
Gln Lys Glu Glu Ser Asp Val Pro Gln Trp Ser Ser Gln Phe Leu Gln				
305		310		315
Lys Ser Pro Leu Pro Thr Lys Arg Gly Thr Ala Gly Leu Leu Glu Gln				
	325		330	335
Trp Leu Lys Arg Glu Lys Glu Glu Glu Pro Val Ala Lys Arg Pro Tyr				
	340		345	350
Ser Gln				

<210> 4399  
 <211> 723  
 <212> DNA  
 <213> Homo sapiens

<400> 4399  
 gtgcaccgca tcaagcgcga gtgcgagcgc gacatccgca ggctgatgga tgagatcaaa  
 60  
 gggaaagacc gtgtgattct ggccttgag aaggaacttg gcgtgcaggc tgggcagacc  
 120  
 cagaagctgc ttctgcagaa agaggctttg gatgagcagc tgggtcaggt caaggaggcc  
 180  
 gagcggcacc acagtagtcc aaagagagag ctcgccccg ggatcgggga catggtggag  
 240  
 ctcatgggcg tccaggatca acatatggac gagcgagatg tgaggcgatt tcaactaaaa  
 300  
 attgctgaac tgaattcagt gatacgaag ctggaagaca gaaatacgct gttggcagat  
 360  
 gagaggaatg aactgctgaa acgctcacga gagaccgagg ttcagctgaa gcccttggtg  
 420  
 gagaagaaca agcggatgaa caagaagaat gaggatctgt tgcagagtat ccagaggatg  
 480  
 gaggagaaaa tcaagaacct cacgcgggaa aacgtggaaa tgaaagaaaa gctgtcagcg  
 540  
 caggcgtctc tgaagcggca tacctccttg aatgacctca gcctgacgag ggatgagcag  
 600  
 gagatcgagt tctgagggt gcagggtgctg gagcagcagc acgtcattga cgacctctca  
 660  
 ctggagagag aacggctggt gcgctccaaa aggcacgag ggaaaagtct gaaaccgccc  
 720  
 aag  
 723

<210> 4400

<211> 241  
 <212> PRT  
 <213> Homo sapiens

<400> 4400  
 Val His Arg Ile Lys Arg Glu Cys Glu Arg Asp Ile Arg Arg Leu Met  
 1 5 10 15  
 Asp Glu Ile Lys Gly Lys Asp Arg Val Ile Leu Ala Leu Glu Lys Glu  
 20 25 30  
 Leu Gly Val Gln Ala Gly Gln Thr Gln Lys Leu Leu Leu Gln Lys Glu  
 35 40 45  
 Ala Leu Asp Glu Gln Leu Val Gln Val Lys Glu Ala Glu Arg His His  
 50 55 60  
 Ser Ser Pro Lys Arg Glu Leu Pro Pro Gly Ile Gly Asp Met Val Glu  
 65 70 75 80  
 Leu Met Gly Val Gln Asp Gln His Met Asp Glu Arg Asp Val Arg Arg  
 85 90 95  
 Phe Gln Leu Lys Ile Ala Glu Leu Asn Ser Val Ile Arg Lys Leu Glu  
 100 105 110  
 Asp Arg Asn Thr Leu Leu Ala Asp Glu Arg Asn Glu Leu Leu Lys Arg  
 115 120 125  
 Ser Arg Glu Thr Glu Val Gln Leu Lys Pro Leu Val Glu Lys Asn Lys  
 130 135 140  
 Arg Met Asn Lys Lys Asn Glu Asp Leu Leu Gln Ser Ile Gln Arg Met  
 145 150 155 160  
 Glu Glu Lys Ile Lys Asn Leu Thr Arg Glu Asn Val Glu Met Lys Glu  
 165 170 175  
 Lys Leu Ser Ala Gln Ala Ser Leu Lys Arg His Thr Ser Leu Asn Asp  
 180 185 190  
 Leu Ser Leu Thr Arg Asp Glu Gln Glu Ile Glu Phe Leu Arg Leu Gln  
 195 200 205  
 Val Leu Glu Gln Gln His Val Ile Asp Asp Leu Ser Leu Glu Arg Glu  
 210 215 220  
 Arg Leu Leu Arg Ser Lys Arg His Arg Gly Lys Ser Leu Lys Pro Pro  
 225 230 235 240  
 Lys

<210> 4401  
 <211> 1131  
 <212> DNA  
 <213> Homo sapiens

<400> 4401  
 nccccgggta aacctctcta gccattctc aataaagatt cacatagcta tagcacgact  
 60  
 atgcccataga tgatgtatca ttttatactt actggaatcc aagccaggct gggtttcta  
 120  
 agaaagggtga tccaaggaat cacatgtgag aaaaacagtg ctctagcaaa gggatcctcg  
 180  
 aatcaaaggc atcgagaata tttttaataa ctaatgcctt tttgctattt ccggggaaag  
 240  
 gctggattgt gctaccgacg ctcaatatcc atgcaccccg gatctggaag actttgccgg  
 300

cctgcagatt ggccttaaga gaaggacgga gccacatact gctgacggcc cagaactggc  
 360  
 agagagaagg ttgccatggc tgctgttgac agtttctacc tcttgtagag ggaaatcgcc  
 420  
 aggtcttgca attgctatat ggaagctcta gctttggttg gagcctggta tacggccaga  
 480  
 aaaagcatca ctgtcatctg tgacttttac agcctgatca ggctgcattt tatccccgc  
 540  
 ctggggagca gagcagactt gatcaagcag tatggaagat gggccgttgt cagcggtgca  
 600  
 acagatggga ttggaaaagc ctacgctgaa gagttagcaa gccgaggtct caatataatc  
 660  
 ctgattagtc ggaacgagga gaagttgcag gttgttgcta aagacatagc cgacacgtac  
 720  
 aaagtggaaa ctgatattat agttgcggac ttcagcagcg gtcgtgagat ctaccttcca  
 780  
 attcgagaag ccctgaagga caaagacgtt ggcatcttg taaataacgt ggggtgtgtt  
 840  
 tatccctacc cgcagtattt cactcagctg tccgaggaca agctctggga catcataaat  
 900  
 gtgaacattg ccgccgctag tttgatggtc catgttgtgt taccgggaat ggtggagaga  
 960  
 aagaaaggtg ccacgctcac gatctcttct gggctcctgc tgcaaccac tctcagctg  
 1020  
 gctgcatttt ctgcttctaa ggcttattta gaccacttca gcagagcctt gcaatatgaa  
 1080  
 tatgcctcta aaggaatctt tgtacagagt ctaatncctt tctatgtagc c  
 1131

&lt;210&gt; 4402

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4402

Met	Ala	Ala	Val	Asp	Ser	Phe	Tyr	Leu	Leu	Tyr	Arg	Glu	Ile	Ala	Arg
1				5					10					15	
Ser	Cys	Asn	Cys	Tyr	Met	Glu	Ala	Leu	Ala	Leu	Val	Gly	Ala	Trp	Tyr
			20					25					30		
Thr	Ala	Arg	Lys	Ser	Ile	Thr	Val	Ile	Cys	Asp	Phe	Tyr	Ser	Leu	Ile
		35				40					45				
Arg	Leu	His	Phe	Ile	Pro	Arg	Leu	Gly	Ser	Arg	Ala	Asp	Leu	Ile	Lys
	50				55				60						
Gln	Tyr	Gly	Arg	Trp	Ala	Val	Val	Ser	Gly	Ala	Thr	Asp	Gly	Ile	Gly
65				70					75					80	
Lys	Ala	Tyr	Ala	Glu	Glu	Leu	Ala	Ser	Arg	Gly	Leu	Asn	Ile	Ile	Leu
			85					90					95		
Ile	Ser	Arg	Asn	Glu	Glu	Lys	Leu	Gln	Val	Val	Ala	Lys	Asp	Ile	Ala
			100					105					110		
Asp	Thr	Tyr	Lys	Val	Glu	Thr	Asp	Ile	Ile	Val	Ala	Asp	Phe	Ser	Ser
		115				120					125				
Gly	Arg	Glu	Ile	Tyr	Leu	Pro	Ile	Arg	Glu	Ala	Leu	Lys	Asp	Lys	Asp
	130					135					140				
Val	Gly	Ile	Leu	Val	Asn	Asn	Val	Gly	Val	Phe	Tyr	Pro	Tyr	Pro	Gln

145					150					155					160
Tyr	Phe	Thr	Gln	Leu	Ser	Glu	Asp	Lys	Leu	Trp	Asp	Ile	Ile	Asn	Val
				165					170					175	
Asn	Ile	Ala	Ala	Ala	Ser	Leu	Met	Val	His	Val	Val	Leu	Pro	Gly	Met
			180					185					190		
Val	Glu	Arg	Lys	Lys	Gly	Ala	Ile	Val	Thr	Ile	Ser	Ser	Gly	Leu	Leu
		195					200					205			
Leu	Gln	Pro	Thr	Pro	Gln	Leu	Ala	Ala	Phe	Ser	Ala	Ser	Lys	Ala	Tyr
	210				215					220					
Leu	Asp	His	Phe	Ser	Arg	Ala	Leu	Gln	Tyr	Glu	Tyr	Ala	Ser	Lys	Gly
225					230					235					240
Ile	Phe	Val	Gln	Ser	Leu	Xaa	Pro	Phe	Tyr	Val	Ala				
				245					250						

```
<210> 4403
<211> 4237
<212> DNA
<213> Homo sapiens
```

```

<400> 4403
nggatccaag ccatattgat tgggctgcat tggcccaagc ttggattgcc cacaagagaa
60
gcttcaggac agcaaagcat ggtagaacia ccaccaggaa tgatgccaaa tggacaagat
120
atgtctacaa tgggaatctgg tccaaacaat catgggaatt tccaagggga ttcaaacttc
180
aacagaatgt ggcaaccaga atgggggaatg catcagcaac cccacacccc cctccagat
240
cagccatgga tgccaccaac accaggccca atggacattg ttcctccttc tgaagacagc
300
aacagtcagg acagtgggga atttgcccct gacaacaggc atatatttaa ccagaacaat
360
cacaactttg gtggaccacc cgataatttt gcagtggggc cagtgaacca gtttgactat
420
cagcatgggg ctgcttttgg tccaccgcaa ggtggatttc atcctcctta ttggcaacca
480
ggacctccag gacctccagc acctccccag aatcgaagag aaaggccatc atcattcagg
540
gatcgtcagc gttcacctat tgcacttccg gtgaagcagg agcctccaca aattgacgca
600
gtaaaacgca ggactcttcc cgcttggaat cgcgaaaggc ttgaaaaaat ggaacgtgaa
660
aagcagaaga aattggagaa agaaagaatg gaacaacaac gttcacaatt gtccaaaaaa
720
aaaaaaaaagg ccacagaaga tgctgaagga ggggatggcc ctcgtttacc tcagagaagt
780
aaatttgata gtgatgagga agaagaagac actgaaaatg ttgaggctgc aagtagtggy
840
aaagtcacca gaagtcctc cccagttcct caagaagagc acagtgacct tgagatgact
900
gaagaggaga aagagtatca aatgatgttg ctgacaaaaa tgcttctaac agaaattctg
960
ctggatgtca cagatgaaga aatttattac gtagccaaag atgcacaccg caaagcaacg
1020

```

aaagctcctg caaaacagct ggcacagtcc agtgactgg cttccctcac tggactcgg  
1080  
ggactgggtg gttatggatc aggagacagt gaagatgaga ggagtgcagc aggatctgag  
1140  
tcacttgaca ctgatgatga agaattacgg catcgaatcc ggcaaaaaca ggaagctttt  
1200  
tggagaaaag aaaaagaaca gcagctatta catgataaac agatggaaga agaaaagcag  
1260  
caaacagaaa ggggttacaaa agagatgaat gaatttatcc ataaagagca aaatagttaa  
1320  
tcactactag aagcaagaga agcagacggg gatgtgggta atgaaaagaa gagaactcca  
1380  
aatgaaacca catcagtttt agaaccacaaa aaagagcata aagaaaaaga aaaacaagga  
1440  
aggagtaggt cgggaagttc tagtagtggt agttccagta gcaatagcag aactagtagt  
1500  
actagtagta ctgtctctag ctcttcatac agttctagct caggtagtag tctacttct  
1560  
tctcgggtctt cttctcctaa aaggaaaaag agacacagta ggagttagatc tccaacaatc  
1620  
aaagctagac gtagcaggag tagaagctat tctcgcagaa ttaaaataga gagcaatagg  
1680  
gctagggtta agattagaga tagaaggaga tctaatagaa atagcattga aagagaaaga  
1740  
cgacgaaatc ggagtccttc ccgagagaga cgtagaagta gaagtcgctc aagggataga  
1800  
cgaaccaatc gtgccagtcg cagtaggagt cgagataggc gtaaaattga tgatcaacgt  
1860  
ggaaatctta gtgggaacag tcataagcat aaaggtaggg cttaaagaaca agagaggaaa  
1920  
aaggagagga gtcgaagtat agataaagat aggaaaaaga aagacaaaga aagggaaacgt  
1980  
gaacaggata aaagaaaaga gaaacaaaaa agggaagaaa aagattttta gttcagtagt  
2040  
caggatgata gattaaaaag gaaacgagaa agtgaaagaa cattttctag gagtgggtct  
2100  
atatctgtta aaatcataag acatgattct agacaggata gtaagaaaag tactaccaa  
2160  
gatagtaaaa aacattcagg ctctgattct agtggaaagga gcagttctga gtctccagga  
2220  
agtagcaaag aaaagaaggc taagaagcct aaacatagtc gatcgcgac cgtggagaaa  
2280  
tctcaaaggc ctggttaagaa ggcaagccgc aaacacaagt ctaagtcctg atcaaggtag  
2340  
tatacttttt aaagtatttt gtctgatttt taaaaaaaat tgactgaatt tattcaaagt  
2400  
tgaaagtgtc ctttctctct ctctttaata aactcagttt ggtacttgat aaataatcat  
2460  
agtcttaaat gttagaaatc ctatataata ttatttattt aaaattgcag atttttaatt  
2520  
taaaatacat ttttattttt aaattttgtc ttttcccttt tttttcagat caacaacccc  
2580  
tccccgctgt aaacgctgag gaatgatgtg gcaagaatgc catgatgttc tttaaaaaaa  
2640



ttccatgagt tttaagggt tgtctcatta tagaggcaca ttgtggctgt gtaggtgaaa  
2700  
ccagaatctt tttttttttt aatctgtaaa taggtgtact tttccaatg ctgctccaag  
2760  
ttacttaata ggatttcttt gtattacgtt tttttcaaaa aatatagtgc ataataagac  
2820  
tataaacatg ccattctctt tcagctgtaa tgttcttaaa attattcttg aatgtactgt  
2880  
gatgtcaata aagctcttta gttcattttt gttaaactct tgcaccttaa ttttatgggt  
2940  
ttaatctaag gaacgtactt ttataaaaag gcagctggaa ttttgataa cagggtttta  
3000  
aggtaccttc tctcacctcc cccaaagaaa atgggtttta cttaatagtt tgtcaagtt  
3060  
tgtaaattgt acccatggac ttttgccaga ttccaacttt aagggtatga aagagggcta  
3120  
gaaatagacc tttacttttc atttggaagt atttgacaac tttctaaact tttcttcta  
3180  
ttttgggat tttcaagtaa tatattctt gtgtgtataa cgtgtgggtc actcctgtta  
3240  
aatgaaattg ctggaatcaa tcaagccagt gcaccagtag agttatttgt aaggaacgat  
3300  
tgtgtttgac agtaatagtc aagtctggaa ctatattcta cagtcacca cttctgtttt  
3360  
agaagcattt tgaaacactt tttgggggta tagaaataag actcatgatt atatatattt  
3420  
atttatattt ttaaagtata atatgacctc aaatcaatgg aggaatgctg tattatgcag  
3480  
gtttgtgtca atttcatgac attaaaattg tctgattttg tccgtttctt aaaattatga  
3540  
ttagtgagtg gtctaacagt ttaaggcatt gataacttac aagtagagtg gggctctcaa  
3600  
agcattttta ctcagttgct ttaggggtcca tttttttatg taatcactta ctcagtgata  
3660  
aatgaatctc tgaaaaacaa tgcttttaca ttttaattta aaaagaaaac aggtgcaggc  
3720  
cacagaaaag ttttaaagta tgccttctta ccagcaatag ttcattttta aaatcatgcc  
3780  
agatttttgc caagatcagt gtttcctcaa catgaagata gaaatagatt tgtatagtgt  
3840  
gctcttgtag ctctacatag attattatat aattttgagc agttacacat ttatctaaag  
3900  
gaaataaatc aactgtgaat aaatgcattg ttaccaaact ggctgtttac agtgcattta  
3960  
gttctgatat ttataaagat gacatttcac agaataactt taaaatagtt tgaaattcta  
4020  
tatagttag acatcgatca catctggaga caaaataaaa tgtgcaatat ttttatgta  
4080  
ggcgagctaa cacagtgtac ctaattgcag aattatctga ttaatttgta atagataagt  
4140  
tgtataacat tttcatatct taaaatgttt tttagatcaa tcttgaagtg aaatattttc  
4200  
aaaataaat tctacagaaa aaaaaaaaaa aaaaaaa  
4237

<210> 4404  
 <211> 779  
 <212> PRT  
 <213> Homo sapiens

<400> 4404

```

Xaa Ile Gln Ala Ile Leu Ile Gly Leu His Trp Pro Lys Leu Gly Leu
 1           5           10           15
Pro Thr Arg Glu Ala Ser Gly Gln Gln Ser Met Val Glu Gln Pro Pro
      20           25           30
Gly Met Met Pro Asn Gly Gln Asp Met Ser Thr Met Glu Ser Gly Pro
      35           40           45
Asn Asn His Gly Asn Phe Gln Gly Asp Ser Asn Phe Asn Arg Met Trp
      50           55           60
Gln Pro Glu Trp Gly Met His Gln Gln Pro Pro His Pro Pro Pro Asp
      65           70           75           80
Gln Pro Trp Met Pro Pro Thr Pro Gly Pro Met Asp Ile Val Pro Pro
      85           90           95
Ser Glu Asp Ser Asn Ser Gln Asp Ser Gly Glu Phe Ala Pro Asp Asn
      100          105          110
Arg His Ile Phe Asn Gln Asn Asn His Asn Phe Gly Gly Pro Pro Asp
      115          120          125
Asn Phe Ala Val Gly Pro Val Asn Gln Phe Asp Tyr Gln His Gly Ala
      130          135          140
Ala Phe Gly Pro Pro Gln Gly Gly Phe His Pro Pro Tyr Trp Gln Pro
      145          150          155          160
Gly Pro Pro Gly Pro Pro Ala Pro Pro Gln Asn Arg Arg Glu Arg Pro
      165          170          175
Ser Ser Phe Arg Asp Arg Gln Arg Ser Pro Ile Ala Leu Pro Val Lys
      180          185          190
Gln Glu Pro Pro Gln Ile Asp Ala Val Lys Arg Arg Thr Leu Pro Ala
      195          200          205
Trp Ile Arg Glu Gly Leu Glu Lys Met Glu Arg Glu Lys Gln Lys Lys
      210          215          220
Leu Glu Lys Glu Arg Met Glu Gln Gln Arg Ser Gln Leu Ser Lys Lys
      225          230          235          240
Lys Lys Lys Ala Thr Glu Asp Ala Glu Gly Gly Asp Gly Pro Arg Leu
      245          250          255
Pro Gln Arg Ser Lys Phe Asp Ser Asp Glu Glu Glu Glu Asp Thr Glu
      260          265          270
Asn Val Glu Ala Ala Ser Ser Gly Lys Val Thr Arg Ser Pro Ser Pro
      275          280          285
Val Pro Gln Glu Glu His Ser Asp Pro Glu Met Thr Glu Glu Glu Lys
      290          295          300
Glu Tyr Gln Met Met Leu Leu Thr Lys Met Leu Leu Thr Glu Ile Leu
      305          310          315          320
Leu Asp Val Thr Asp Glu Glu Ile Tyr Tyr Val Ala Lys Asp Ala His
      325          330          335
Arg Lys Ala Thr Lys Ala Pro Ala Lys Gln Leu Ala Gln Ser Ser Ala
      340          345          350
Leu Ala Ser Leu Thr Gly Leu Gly Gly Leu Gly Gly Tyr Gly Ser Gly
      355          360          365
Asp Ser Glu Asp Glu Arg Ser Asp Arg Gly Ser Glu Ser Ser Asp Thr

```

370 375 380  
 Asp Asp Glu Glu Leu Arg His Arg Ile Arg Gln Lys Gln Glu Ala Phe  
 385 390 395 400  
 Trp Arg Lys Glu Lys Glu Gln Gln Leu Leu His Asp Lys Gln Met Glu  
 405 410 415  
 Glu Glu Lys Gln Gln Thr Glu Arg Val Thr Lys Glu Met Asn Glu Phe  
 420 425 430  
 Ile His Lys Glu Gln Asn Ser Leu Ser Leu Leu Glu Ala Arg Glu Ala  
 435 440 445  
 Asp Gly Asp Val Val Asn Glu Lys Lys Arg Thr Pro Asn Glu Thr Thr  
 450 455 460  
 Ser Val Leu Glu Pro Lys Lys Glu His Lys Glu Lys Glu Lys Gln Gly  
 465 470 475 480  
 Arg Ser Arg Ser Gly Ser Ser Ser Ser Gly Ser Ser Ser Ser Asn Ser  
 485 490 495  
 Arg Thr Ser Ser Thr Ser Ser Thr Val Ser Ser Ser Ser Tyr Ser Ser  
 500 505 510  
 Ser Ser Gly Ser Ser Arg Thr Ser Ser Arg Ser Ser Ser Pro Lys Arg  
 515 520 525  
 Lys Lys Arg His Ser Arg Ser Arg Ser Pro Thr Ile Lys Ala Arg Arg  
 530 535 540  
 Ser Arg Ser Arg Ser Tyr Ser Arg Arg Ile Lys Ile Glu Ser Asn Arg  
 545 550 555 560  
 Ala Arg Val Lys Ile Arg Asp Arg Arg Arg Ser Asn Arg Asn Ser Ile  
 565 570 575  
 Glu Arg Glu Arg Arg Arg Asn Arg Ser Pro Ser Arg Glu Arg Arg Arg  
 580 585 590  
 Ser Arg Ser Arg Ser Arg Asp Arg Arg Thr Asn Arg Ala Ser Arg Ser  
 595 600 605  
 Arg Ser Arg Asp Arg Arg Lys Ile Asp Asp Gln Arg Gly Asn Leu Ser  
 610 615 620  
 Gly Asn Ser His Lys His Lys Gly Glu Ala Lys Glu Gln Glu Arg Lys  
 625 630 635 640  
 Lys Glu Arg Ser Arg Ser Ile Asp Lys Asp Arg Lys Lys Lys Asp Lys  
 645 650 655  
 Glu Arg Glu Arg Glu Gln Asp Lys Arg Lys Glu Lys Gln Lys Arg Glu  
 660 665 670  
 Glu Lys Asp Phe Lys Phe Ser Ser Gln Asp Asp Arg Leu Lys Arg Lys  
 675 680 685  
 Arg Glu Ser Glu Arg Thr Phe Ser Arg Ser Gly Ser Ile Ser Val Lys  
 690 695 700  
 Ile Ile Arg His Asp Ser Arg Gln Asp Ser Lys Lys Ser Thr Thr Lys  
 705 710 715 720  
 Asp Ser Lys Lys His Ser Gly Ser Asp Ser Ser Gly Arg Ser Ser Ser  
 725 730 735  
 Glu Ser Pro Gly Ser Ser Lys Glu Lys Lys Ala Lys Lys Pro Lys His  
 740 745 750  
 Ser Arg Ser Arg Ser Val Glu Lys Ser Gln Arg Ser Gly Lys Lys Ala  
 755 760 765  
 Ser Arg Lys His Lys Ser Lys Ser Arg Ser Arg  
 770 775

&lt;210&gt; 4405

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4405

```

ngcttcctta cagcaccccc acctgccaga gctgacccct cctaggccct gcctaacctt
60
gagttggccc ccaatccctc tggctgcaga agtcccctta cccccaatga gaggaggggc
120
aggaccagat cttttgagag ctgaggggtg agggcattga gccaacacac agatttgctg
180
cctctgtccc cgaagacacc tgcaccctcc atgcggagcc aagatgggga atggaactga
240
ggaagattat aactttgtct tcaagggtag tatcgtgggtg cagtgggggc ctcctgggtg
300
tttgacctaa ccaagcacca gacctatgct gtggtggagc gatggctgaa ggagctctat
360
gaccatgctg aagccacgat cgctgcatg ctcgtgggta acaaaagtga cctcagccag
420
gcccgggaag tgcccactga ggaggccga atgttcgctg aaaacaatgg actgctcttc
480
ctggagacct cagccctgga ctctaccaat gttgagctag cctttgagac tgcctgaaa
540
gaaatctttg cgaaggtgtc caagcagaga cagaacagca tccggaccaa tgccatcact
600
ctgggcagtg cccaggctgg acaggagcct ggccctgggg agaagagggc ctgttgcatc
660
agcctctgac cttggccagc accacctgcc cccactggct ttttggtgcc ccttgtcccc
720
acttcagccc caggaccttt ccttgccctt tggttccaga tatcagactg ttccctgttc
780
acagcacctc cagggcttta aggtcttcat gccctatcac aaatacctct tttatctgtc
840
caccctcac agactaggac cctcaaataa agctgtttta tatcaaaaaa aaaaaaaaaa
900
aaaaaaaaaa aaaaaaaaaa
918

```

&lt;210&gt; 4406

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4406

```

Leu Cys Leu Gln Gly Tyr Tyr Arg Gly Ala Val Gly Ala Leu Leu Val
 1             5             10             15
Phe Asp Leu Thr Lys His Gln Thr Tyr Ala Val Val Glu Arg Trp Leu
          20          25          30
Lys Glu Leu Tyr Asp His Ala Glu Ala Thr Ile Val Val Met Leu Val
          35          40          45
Gly Asn Lys Ser Asp Leu Ser Gln Ala Arg Glu Val Pro Thr Glu Glu
          50          55          60
Ala Arg Met Phe Ala Glu Asn Asn Gly Leu Leu Phe Leu Glu Thr Ser
65          70          75          80
Ala Leu Asp Ser Thr Asn Val Glu Leu Ala Phe Glu Thr Val Leu Lys

```

				85					90					95		
Glu	Ile	Phe	Ala	Lys	Val	Ser	Lys	Gln	Arg	Gln	Asn	Ser	Ile	Arg	Thr	
			100					105					110			
Asn	Ala	Ile	Thr	Leu	Gly	Ser	Ala	Gln	Ala	Gly	Gln	Glu	Pro	Gly	Pro	
		115					120					125				
Gly	Glu	Lys	Arg	Ala	Cys	Cys	Ile	Ser	Leu							
	130					135										

&lt;210&gt; 4407

&lt;211&gt; 974

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4407

ctgtggctaa tgaatgtttt accaaaactc taaactcttt taaacttccc agtttctcaa  
 60  
 agtcagtgtg taaattattt tattctagtt tgcacggaga caattttaaa agactgtttt  
 120  
 ttctctgtag tccttgagca gccatttgac caaataaatt taattttata atcaataaaa  
 180  
 gtcaaaagaa taccttttga agatagggga tcaccctatt atacctctaa atgttaacct  
 240  
 caatgcacat tttggaggat atttgcaaga tttattattc atttgatggt ttcttaaagg  
 300  
 atgtttgatg taggtggaca gagatctgag agaaagaagt ggattcactg ctttgaagga  
 360  
 gttacatgca ttatattttg tgctgcactt agtgcctatg acatggctct cgtggaagac  
 420  
 gaagaagtga atagaatgca tgaaagcctt cacctgttca acagtatctg taatcacaag  
 480  
 tatttttcaa caacctccat tgtcctgttc ctcaacaaaa aagatatctt tcaagaaaaag  
 540  
 gtaaccaagg tgcattcttag tatctgcttt ccagaataca ctggggccaaa tacatttgaa  
 600  
 gatgcaggaa actacatcaa gaaccagttt ctagacctga atttaaaaaa agaagataag  
 660  
 gaaatttatt cccacatgac ctgtgctact gacacccaaa atgtcaagtt tgtgtttgac  
 720  
 gcagttacag atataataat caaagagaat ctaaaagact gtgggctttt ctaatcaact  
 780  
 attttctctt ccactcttgc tcatgtatgc ttttcaaat ataaaagaaa aggtgctgta  
 840  
 tgacgtgttt agtttgaata gacattaact tatctagaca tataactagc attgtaaagc  
 900  
 aaaaagtgtt cccacaaaaa tatttatgtg ttatcatcta tatctggata agtttaaatt  
 960  
 tctttggaac atgg  
 974

&lt;210&gt; 4408

&lt;211&gt; 158

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4408

```

Arg Met Phe Asp Val Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile
 1           5           10           15
His Cys Phe Glu Gly Val Thr Cys Ile Ile Phe Cys Ala Ala Leu Ser
      20           25           30
Ala Tyr Asp Met Val Leu Val Glu Asp Glu Glu Val Asn Arg Met His
      35           40           45
Glu Ser Leu His Leu Phe Asn Ser Ile Cys Asn His Lys Tyr Phe Ser
      50           55           60
Thr Thr Ser Ile Val Leu Phe Leu Asn Lys Lys Asp Ile Phe Gln Glu
      65           70           75           80
Lys Val Thr Lys Val His Leu Ser Ile Cys Phe Pro Glu Tyr Thr Gly
      85           90           95
Pro Asn Thr Phe Glu Asp Ala Gly Asn Tyr Ile Lys Asn Gln Phe Leu
      100           105           110
Asp Leu Asn Leu Lys Lys Glu Asp Lys Glu Ile Tyr Ser His Met Thr
      115           120           125
Cys Ala Thr Asp Thr Gln Asn Val Lys Phe Val Phe Asp Ala Val Thr
      130           135           140
Asp Ile Ile Ile Lys Glu Asn Leu Lys Asp Cys Gly Leu Phe
      145           150           155

```

&lt;210&gt; 4409

&lt;211&gt; 4217

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4409

```

gagagctctg aggaggagga gggggaggag ggggaggctg ggggcaagca ggggccacgg
60
ggaagccgaa gcagccgggc agacccccct cccacagtc acatggccac acggtcccgg
120
gagaacgccc ggcgcccggg taccctgaa cctgaagaag ctgggcccgg ggggtgggaag
180
aggccaaagc cacccttg agtggcctct gcacggccc gagggccgcc agccactgat
240
gggctggggg ccaaggtgaa gctggaggag aagcagcacc atccatgcca gaagtgccca
300
cgagttttca acaaccgctg gtacctggag aaacacatga atgtgaccca cagccgcatg
360
cagatctgcg accagtgcgg caagcgcttc ctgctggaga gcgagctgct gctgcacagg
420
cagacagact gcgagcgcaa catccagtgt gtgacatgtg gcaaagcttt caagaagctt
480
tggtccctcc atgagcataa caagattgtg cacggctacg cagagaagaa gttctcatgc
540
gagatctgtg agaagaagtt ctacaccatg gcccacgtgc gtaagcacat ggttgcccac
600
accaaggaca tgccttcac ctgcgagacc tgcggaagc cttcaaagc cagtatgtca
660
ctcaaggcgc actccttgca gcattctgga gagaagccct ttagatgcga gaactgtgac
720
gaaagggttc agtacaagta ccagctacgc tcccacatga gcattcatat tgggcacaaa
780

```

cagttcatgt gccagtgggtg tggcaaggat ttcaacatga agcagtactt cgacgaacac  
840  
atgaaaacac aactgggaga gaaacccttt atctgtgaaa tctgtggcaa aagcttcacc  
900  
agccgcccc aatgaagag acaccgcaga actcacacag gcgagaagcc ctatccatgt  
960  
gatgtgtgtg gccagcggtt ccgcttctcg aacatgctca agggccacaa ggagaagtgc  
1020  
ttccggtca gccacaccct ggccggcgac ggcgccccg ctgccccagg cctgccccca  
1080  
accagcccc aggcgcacgc actgcccctg ctcccggggc tgccccagac cctgccgccc  
1140  
ccgccccacc tgccgcccc gcctccgctc ttccccacca ctgccagccc cggcgggagg  
1200  
atgaacgcca acaactagct gccgagctgc acccgtgcac ccgctggggc ctggagtca  
1260  
ggccactcc agggaggacc cactgccttc ccggggagca cagtagtgcg ggcctgggccc  
1320  
ctgctccacc tccagaagtg gctggatgta ccctgcctga ggccccgacg aggaggggta  
1380  
tgcaggctgg caggccccag agctggtgga gggcatctca ctcccaagtg ccccccttt  
1440  
ctgtgactcc ttgaagcctt tacttttttt ttttttttg aagtgaagga aaaagaaact  
1500  
atttacagca ctccccctca ggtgaggggg gtgctggggg tctgcagcag aaagaaagg  
1560  
gcctgggcag caggtgtggc cagtccctct gccaaaggcct gtgccagagg ggttggccag  
1620  
ttggagcctg ggtcagcctc agcagcctat ccccatgtcc tctatgcccc taatttgctt  
1680  
cctcatcttg gagggtttg ggagaagtg gcgtgccacc cccacaaccc ctgaggagg  
1740  
gtagaccag tctgagagcc gcaagcactg aggcagggcc tgagactgga cctgggtgag  
1800  
cgtggggggg ggagggtggc gaggtgcgga gactgcagac cagtgcctca ctgtgtggag  
1860  
tggggcaggc aggggctgga cccagggac ttgccttccc caccactct gctgccagca  
1920  
ggcccaggga tccctgacct gcaccagggtg gcaccaaggg tccctgagtcc tggagatgtc  
1980  
cccagaagct gctgtgcctc acagcgctgt gagccagacc ctccctgggc agacaggctg  
2040  
actggcagca ccagcttttg gggcagagtc ctaggatgag gcttgggcag tgctggtagg  
2100  
gtttcaagg gctattagt gggcaggggc agggcggtg ctcacagagc acccagttc  
2160  
ctcaccagct actctggcca tatatccac accagaagga acaagtgtgg ctgtgtccat  
2220  
ctctgtcccc ccaaaggccc gctctaggcc ttatcctccc tctaggctcc gccacaacct  
2280  
gtccctggct ggctccagcg tcctcgtccc tcctgggect gtgcaccggt ggggtggggcg  
2340  
cccatagcac tgccggtaaa ggagcctgca tgttcaggcc cctcggggga ttggggggac  
2400

tggggaggcg cagcctagac ccaattgctt gcccccatga ggctagcact aataggaaac  
2460  
ccttttttgt tgtcatttaa tgtctttatt cctgccttta atatggggag gaagggtcca  
2520  
taagctacat gtttcctagt taagctcttt cctattgtgt ttatacagtt ttgtttgtta  
2580  
tactctttgc accttaaacc cccaccactc cccgacacta ttgccttccc agcatggctg  
2640  
gagtgggaag aggcttgggc cccgggggaa tggttagggg gactgaaccc ctctgacctt  
2700  
atgaggccca tggcactggg gcagggagct ggggacattt taatcatcaa taaacgaagc  
2760  
actttattct gtacagattt gggcaggccc aagggtgccc agtgatctga ggatttataa  
2820  
tccaagccac accaccctgg ttgttctctg ggcttggagg gtacagtgc agcagcttcc  
2880  
ttgccaatt gatgttgag ctgtagacgt acgctcaggc gtcctgctg tcctggggga  
2940  
gagaagggtc gcccctcccc gaggaagaag gcttctggtc aggaccccca cccaaggct  
3000  
ggggactcca ggctcctgct ttactgtagc tctttttctt ccttgcactc cttgatcttt  
3060  
gggcttccgt gatgtcctca ggggtcccc ctcctgttg ctatttttaa tctctagtc  
3120  
cagtgcctgg cagctctttg gagctggctc acattttccc aaaaaaagtt gatctctccc  
3180  
agtgggctgt aggcagggtc ctccatgggt ttccaacccc catcactggc accaggatct  
3240  
cccacaggca ctggtggtgt catcacctgc tggccccact acagcctgag taggcctgag  
3300  
tggcctggc caggctgaga cctgtcaggc catactgaca agcagaggtc agagacactg  
3360  
gtggggagct ggcaatgaaa ccctgtcctg ggacatgggt ttcatgttct tgtacacttc  
3420  
ccctctggga tcaggtgagg ggtccagaca gctgaccaga cagcttgaca gctggtcaag  
3480  
acgggtcacgg gagctctagg tgggcacaac caacccctct cctgggaggc ccctgcccc  
3540  
ctggggatag gagcctgtgt ccctgggtgct aagcactctc ttcacttggg ccattgttgg  
3600  
tgggggctcc tttccggcca gaccacaagg ccagaagcaa taatggcacc tcagcagttc  
3660  
cagtatggat aggggttccct gttttactag cttttacatc tttttattta aaacaaaaca  
3720  
acacaaaaaa acaatgtgcc ccagatgtc agaatgaggc gactagggca ccatactcac  
3780  
tttccagggc tgggggaagg gggacgcagg atcatcccct cccaaggaga tctgtggggg  
3840  
tcccaccgtc catctggact tctcagcctg tttggctaga actcaggcct ggagtctggg  
3900  
tctgccccct ccccggtctc ttggggctct ctggtctcag gccagctggc gatgggtggc  
3960  
tagagtgatg aactcaagcc ctgtggccac agttctggga gccttcaacc ctggctcatg  
4020



ctgccatagt ctccacggtg cccttcacag agggcttggt agtggcagaa tggccatgcc  
 4080  
 caggtgtgtg ttgagaccat tgacaactgc tcgtgtacag gcaccccaca gccccagagc  
 4140  
 atggggcaca gcaggcatgc gaggtagagg atgaagggga ataaagtcag tacaactcgt  
 4200  
 aaaaaaaaaa aaaaaaa  
 4217

<210> 4410

<211> 405

<212> PRT

<213> Homo sapiens

<400> 4410

Glu	Ser	Ser	Glu	Glu	Glu	Glu	Gly	Glu	Glu	Gly	Glu	Ala	Gly	Gly	Lys
1			5					10						15	
Gln	Gly	Pro	Arg	Gly	Ser	Arg	Ser	Ser	Arg	Ala	Asp	Pro	Pro	Pro	His
		20					25					30			
Ser	His	Met	Ala	Thr	Arg	Ser	Arg	Glu	Asn	Ala	Arg	Arg	Arg	Gly	Thr
	35						40				45				
Pro	Glu	Pro	Glu	Glu	Ala	Gly	Arg	Arg	Gly	Gly	Lys	Arg	Pro	Lys	Pro
	50					55					60				
Pro	Pro	Gly	Val	Ala	Ser	Ala	Ser	Ala	Arg	Gly	Pro	Pro	Ala	Thr	Asp
65				70					75					80	
Gly	Leu	Gly	Ala	Lys	Val	Lys	Leu	Glu	Glu	Lys	Gln	His	His	Pro	Cys
			85					90						95	
Gln	Lys	Cys	Pro	Arg	Val	Phe	Asn	Asn	Arg	Trp	Tyr	Leu	Glu	Lys	His
			100					105					110		
Met	Asn	Val	Thr	His	Ser	Arg	Met	Gln	Ile	Cys	Asp	Gln	Cys	Gly	Lys
	115						120					125			
Arg	Phe	Leu	Leu	Glu	Ser	Glu	Leu	Leu	Leu	His	Arg	Gln	Thr	Asp	Cys
	130					135					140				
Glu	Arg	Asn	Ile	Gln	Cys	Val	Thr	Cys	Gly	Lys	Ala	Phe	Lys	Lys	Leu
145				150						155					160
Trp	Ser	Leu	His	Glu	His	Asn	Lys	Ile	Val	His	Gly	Tyr	Ala	Glu	Lys
			165					170						175	
Lys	Phe	Ser	Cys	Glu	Ile	Cys	Glu	Lys	Lys	Phe	Tyr	Thr	Met	Ala	His
		180					185						190		
Val	Arg	Lys	His	Met	Val	Ala	His	Thr	Lys	Asp	Met	Pro	Phe	Thr	Cys
	195						200					205			
Glu	Thr	Cys	Gly	Lys	Ser	Phe	Lys	Arg	Ser	Met	Ser	Leu	Lys	Val	His
	210					215					220				
Ser	Leu	Gln	His	Ser	Gly	Glu	Lys	Pro	Phe	Arg	Cys	Glu	Asn	Cys	Asp
225				230						235				240	
Glu	Arg	Phe	Gln	Tyr	Lys	Tyr	Gln	Leu	Arg	Ser	His	Met	Ser	Ile	His
			245					250						255	
Ile	Gly	His	Lys	Gln	Phe	Met	Cys	Gln	Trp	Cys	Gly	Lys	Asp	Phe	Asn
		260					265						270		
Met	Lys	Gln	Tyr	Phe	Asp	Glu	His	Met	Lys	Thr	His	Thr	Gly	Glu	Lys
	275						280					285			
Pro	Phe	Ile	Cys	Glu	Ile	Cys	Gly	Lys	Ser	Phe	Thr	Ser	Arg	Pro	Asn
	290					295					300				
Met	Lys	Arg	His	Arg	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Pro	Cys

```

305          310          315          320
Asp Val Cys Gly Gln Arg Phe Arg Phe Ser Asn Met Leu Lys Ala His
          325          330          335
Lys Glu Lys Cys Phe Arg Val Ser His Thr Leu Ala Gly Asp Gly Val
          340          345          350
Pro Ala Ala Pro Gly Leu Pro Pro Thr Gln Pro Gln Ala His Ala Leu
          355          360          365
Pro Leu Leu Pro Gly Leu Pro Gln Thr Leu Pro Pro Pro Pro His Leu
          370          375          380
Pro Pro Pro Pro Pro Leu Phe Pro Thr Thr Ala Ser Pro Gly Gly Arg
385          390          395          400
Met Asn Ala Asn Asn
          405

```

<210> 4411  
 <211> 484  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4411
cccaaggcag cagcaggctt gccagggtggg aaggaccaga aggcagccca gcggtgggga
60
gtgtgggagtg aatggggctg aaagggtagg gctggccac agagggtggg gaggtgcag
120
caaaagagga gtttaggtg gctatggtgc aggggcagct gtatgcttca cctcaaatgt
180
tactgtcttc tctctccatc aaggaggaag ggcccaggct ggggttagga gggctagggg
240
cccaggctgt gtgtccctt tttctctct ggtgccctgc cccccacgc tgtcatctcc
300
ctcagtggca gtgggggttc atcaactgggt cttcaggtcc cttgcccatg gctggtgggtg
360
ttccaggtgg gcccaaccag gcggccctg cctctaggca gcgcgtaggt ttccttgggc
420
agcctcaatc ctgccagcgc cagcatgtct ccctgcacag aagccatcaa gcacctttgg
480
atcc
484

```

<210> 4412  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4412
Met Val Gln Gly Gln Leu Tyr Ala Ser Pro Gln Met Leu Leu Ser Ser
1          5          10          15
Leu Ser Ile Lys Glu Glu Gly Pro Arg Leu Gly Leu Gly Gly Leu Gly
20          25          30
Ala Gln Ala Val Cys Pro Leu Phe Ser Ser Trp Cys Pro Ala Pro Pro
35          40          45
Arg Cys His Leu Pro Gln Trp Gln Trp Gly Phe Ile Thr Gly Ser Ser
50          55          60
Gly Pro Leu Pro Met Ala Gly Gly Val Pro Gly Gly Pro Asn Gln Ala

```

```
<210> 4413
<211> 1097
<212> DNA
<213> Homo sapiens
```

<210> 4414

<211> 65  
 <212> PRT  
 <213> Homo sapiens

<400> 4414  
 Met Ala Leu Leu Phe Ala Arg Ser Leu Arg Leu Cys Arg Trp Gly Ala  
 1 5 10 15  
 Lys Arg Leu Gly Val Ala Ser Thr Glu Arg Gln Arg Gly Val Ser Phe  
 20 25 30  
 Lys Leu Glu Glu Lys Thr Ala His Ser Ser Leu Ala Leu Phe Arg Asp  
 35 40 45  
 Asp Thr Gly Val Lys Tyr Gly Leu Val Gly Leu Glu Pro Thr Lys Val  
 50 55 60  
 Pro  
 65

<210> 4415  
 <211> 775  
 <212> DNA  
 <213> Homo sapiens

<400> 4415  
 taaaaggaaa acagtgtctt tatttgttgtt agttctaaca aacgttcact gtgtgcgcat  
 60  
 tccagcagaa agagacaaag atctttgttc aaaatattct gaaaaaggta aactaactgc  
 120  
 attattgaat acacaaaagg aatgttaccg ttacttggtc atagtcaaag gtgaagttaa  
 180  
 aaaaaaaggg aagttaaata actgaagtaa tggtttgccc aaatagcaaa cgtaggatac  
 240  
 aggcgtgggc aaagagcagc tactgaagct catgaggagg atgctggata tagggtaggt  
 300  
 aacttgacaa atgcctctgc ttctttggaa ccttcttctt agatcacccc cacaaattcc  
 360  
 aaacctggct ctttcagagc acaacagcca aatgtaacta aactcctcat tactttctgtg  
 420  
 atattttggca acagaatgag atagtttaaa aaaaaatcaa tttcttggtg agacaagaca  
 480  
 tgtctgaatc catttctctt ggggtaggag gaggtaatga acattaacgt tctgcatctc  
 540  
 aatctcctaa aatggaattt aaccagatag atatcgcttg agatttttaa gcaggagata  
 600  
 ccataagtaa tgatactcca ggcctgtaaa gcatttttca ttgtcccaca ttgcagctaa  
 660  
 atgagtataa actcgacagt gttctgattt cacaacatat gcatttatga caactgctaa  
 720  
 aacaacttta caggctcaaa cgataggttc caagggattt ttgtttttgc ttaag  
 775

<210> 4416  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4416

```

Met Lys Asn Ala Leu Gln Ala Trp Ser Ile Ile Thr Tyr Gly Ile Ser
 1           5           10           15
Cys Phe Lys Ile Ser Ser Asp Ile Tyr Leu Val Lys Phe His Phe Arg
      20           25           30
Arg Leu Arg Cys Arg Thr Leu Met Phe Ile Thr Ser Ser Tyr Pro Lys
      35           40           45
Arg Asn Gly Phe Arg His Val Leu Ser Gln Gln Glu Ile Asp Phe Phe
      50           55           60
Leu Asn Tyr Leu Ile Leu Leu Pro Asn Ile Thr Glu Val Met Arg Ser
      65           70           75           80
Leu Val Thr Phe Gly Cys Cys Ala Leu Lys Glu Pro Gly Leu Glu Phe
      85           90           95
Val Gly Val Ile
      100

```

&lt;210&gt; 4417

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4417

```

nnacgcgtga gggaaaagca gaggcagttg gaggtagcgc aagttgaaaa ccagctgcta
60
aaaatgaagg tggaatcgtc ccaagaagcc aatgctgagg tgatgcgaga gatgaccaag
120
aagctgtaca gccagtatga ggagaagctg caggaagaac agaggaagca cagtgtctgag
180
aaggaggctc ttttggaaga aaccaatagt tttctgaaag cgattgaaga agccaataaa
240
aagatgcaag cagcagagat cagcctagag gagaaagacc agaggatcgg ggagctggac
300
aggctgattg agcgcattga aaaggaacgt catcaactgc aacttcaact cctagaacat
360
gaaacagaaa tgtctgggga gttaactgat tctgacaagg aaaggtatca gcagttggag
420
gaggcatcag ccagcctccg tgagcggatc agacacctag atgacatggt gcattgccag
480
cagaagaaag tcaagcagat ggttgaggag attgagtcac taaagaaaaa agtgcaacag
540
aagcagctcc tgatactgca gcttttagaa aaaatctctt tcctggaagg agagaataat
600
gaactacaaa gcaggttgga ctatttgaca gaaaccagc ccaagactga agtggaacaa
660
agagaaattg gagtgggctg tgatcttctt ccagcccaa caggcaggac tcgtgaaatt
720
gtgatgcctt ctaggaacta caccctacac acaagagtcc tggagttatc ctcaaagaaa
780
acgtgactt aggcactcag aggcatacac tttttacaga tggacaaaag ctctggaacc
840
ctgtggcttc aaatcctttg ggaagggtga ctgttggttc ccctacacac agtgtaagcc
900
ggaatgggaa tcgctgaggc tctgatccac ttctaagaca ggaaggaaaag tgaaggcaga
960

```

gtgagcaggt aagagagga  
980

<210> 4418  
<211> 263  
<212> PRT  
<213> Homo sapiens

<400> 4418

Xaa	Arg	Val	Arg	Glu	Lys	Gln	Arg	Gln	Leu	Glu	Val	Ala	Gln	Val	Glu
1				5					10					15	
Asn	Gln	Leu	Leu	Lys	Met	Lys	Val	Glu	Ser	Ser	Gln	Glu	Ala	Asn	Ala
		20						25				30			
Glu	Val	Met	Arg	Glu	Met	Thr	Lys	Lys	Leu	Tyr	Ser	Gln	Tyr	Glu	Glu
	35					40					45				
Lys	Leu	Gln	Glu	Glu	Gln	Arg	Lys	His	Ser	Ala	Glu	Lys	Glu	Ala	Leu
	50					55				60					
Leu	Glu	Glu	Thr	Asn	Ser	Phe	Leu	Lys	Ala	Ile	Glu	Glu	Ala	Asn	Lys
65				70					75					80	
Lys	Met	Gln	Ala	Ala	Glu	Ile	Ser	Leu	Glu	Glu	Lys	Asp	Gln	Arg	Ile
		85						90					95		
Gly	Glu	Leu	Asp	Arg	Leu	Ile	Glu	Arg	Met	Glu	Lys	Glu	Arg	His	Gln
	100						105						110		
Leu	Gln	Leu	Gln	Leu	Leu	Glu	His	Glu	Thr	Glu	Met	Ser	Gly	Glu	Leu
	115					120					125				
Thr	Asp	Ser	Asp	Lys	Glu	Arg	Tyr	Gln	Gln	Leu	Glu	Glu	Ala	Ser	Ala
130				135						140					
Ser	Leu	Arg	Glu	Arg	Ile	Arg	His	Leu	Asp	Asp	Met	Val	His	Cys	Gln
145				150					155					160	
Gln	Lys	Lys	Val	Lys	Gln	Met	Val	Glu	Glu	Ile	Glu	Ser	Leu	Lys	Lys
		165						170					175		
Lys	Val	Gln	Gln	Lys	Gln	Leu	Leu	Ile	Leu	Gln	Leu	Leu	Glu	Lys	Ile
	180						185						190		
Ser	Phe	Leu	Glu	Gly	Glu	Asn	Asn	Glu	Leu	Gln	Ser	Arg	Leu	Asp	Tyr
	195					200					205				
Leu	Thr	Glu	Thr	Gln	Ala	Lys	Thr	Glu	Val	Glu	Thr	Arg	Glu	Ile	Gly
210				215						220					
Val	Gly	Cys	Asp	Leu	Leu	Pro	Ser	Pro	Thr	Gly	Arg	Thr	Arg	Glu	Ile
225				230					235					240	
Val	Met	Pro	Ser	Arg	Asn	Tyr	Thr	Pro	Tyr	Thr	Arg	Val	Leu	Glu	Leu
		245						250					255		
Ser	Ser	Lys	Lys	Thr	Leu	Thr									
		260													

<210> 4419  
<211> 369  
<212> DNA  
<213> Homo sapiens

<400> 4419

ngaattcctt gtatcgaaag tgccagaata catactatattt attatgtatt tatttctaaga  
60  
cagggctcttg ctctgntcac ccaggctgga gtgcagtggg gcgatcttgg ctcactgcaa  
120

cctccgectc ccagctcaa gcaactctcc tgccccagcc acccaagtnn aaattacagg  
 180  
 cccgtgccac cacacccggc caatttctgt atttttagta gagacggggg ttcaccatat  
 240  
 tggccaggac ggtctcaaac tcctggcccc atgtgatcct cccaccttgg cctcccaagg  
 300  
 tgctggattt acaggcgtga gccaccactg cgcttggeca gattttgtct ttttttgagc  
 360  
 agtctcagn  
 369

<210> 4420

<211> 91

<212> PRT

<213> Homo sapiens

<400> 4420

Xaa	Ile	Pro	Cys	Ile	Glu	Ser	Ala	Arg	Ile	His	Thr	Ile	Tyr	Tyr	Val
1				5					10					15	
Phe	Ile	Leu	Arg	Gln	Gly	Leu	Ala	Leu	Xaa	Thr	Gln	Ala	Gly	Val	Gln
			20					25					30		
Trp	Cys	Asp	Leu	Gly	Ser	Leu	Gln	Pro	Pro	Pro	Pro	Gln	Leu	Lys	Gln
		35					40					45			
Leu	Ser	Cys	Pro	Ser	His	Pro	Ser	Xaa	Asn	Tyr	Arg	Pro	Val	Pro	Pro
	50					55					60				
His	Pro	Ala	Asn	Phe	Cys	Ile	Phe	Ser	Arg	Asp	Gly	Val	Ser	Pro	Tyr
65				70					75					80	
Trp	Pro	Gly	Arg	Ser	Gln	Thr	Pro	Gly	Pro	Met					
			85						90						

<210> 4421

<211> 1356

<212> DNA

<213> Homo sapiens

<400> 4421

nctggcagag tgtgagggaa gaggcgctaa tccctttccc atctggcctg gcctctcggg  
 60  
 tgtggacacc aaatcccga ggggttgctg tagctatgcc cgtgggcatc cttgccctgg  
 120  
 ctggggtgtg ctagagagag gaaagctgga ggaggagagc tgagctgggt gttaccccat  
 180  
 gccaggaggg ccaaggcaag aagcctgcag cccagagat actgaccctg tcccctgccc  
 240  
 tccagggcac aactgaacta acggaatggc ttaatcagat agctcgagaa ctgccactac  
 300  
 cactccctcc ctgcccactc ctcccaaagt ccacctgttc ccgcaagagt cccacctcac  
 360  
 aagcaaccac cagaggctga tacaaatggc cgctgtatgt ttgctaaagt gacagtgaca  
 420  
 cagataaggg aaagagctga ggggcaggac acatcagatg ggaaggggga gaccgtgcaa  
 480  
 aatggcagtc taacagaaaa tcatccttgt accaacagcc ccttccctcc caagttaggt  
 540

gagcccttgg gccagtgtat gggcagaaaa gcagatttgt gtccttcaga agggaaatgt  
 600  
 aaaaaggtga aagctctagt tgaagggcag tgagaggggc tggagtggga gagaaggtct  
 660  
 ctccctggccg gtgggtctggg tgcagcaagg gcactctgag aaggcagaat ggaaacgcag  
 720  
 ggctggaggg gcatgggtac aggtttgggg gctctttcca gcctctacta tgttgcccc  
 780  
 ttccccaaag cccttacagg ggcagaagca cattccccgt gaccctgagt ctggcctcat  
 840  
 ttgggaagtc ttctgggggtg tatggatgcc tgtgtgtgtg agtgagatgg gtggggggcc  
 900  
 acggctatct ggctctagca cactcatggg agaccagctc tgggaacaac aggatggggg  
 960  
 gctgggatgg gggtttaaga ggtctctgct agatatttct gaactgacct cccaggtgc  
 1020  
 ccaacctggc cttgggaaga gagtgcctag ggcagcgggg atggaaaccc ttgcctgcag  
 1080  
 cataggtcca ggcctcatgg ccctacacct tgacctcttg actttgttgc cctggcctta  
 1140  
 agtaciaaaga ttctcactg cgtgctaaga aaacagatcc cgggccgggc cgggttgctc  
 1200  
 acacctataa tcccagcact ttggaaggct gaggcgggtg aatcacctga gatcaggagt  
 1260  
 tcgagaccag cctggccaac atggcaaaac cctgtctcta ctaaaaacac aaaaatttgc  
 1320  
 cgggcatggt ggcagatgcc tgtaatccca gctact  
 1356

&lt;210&gt; 4422

&lt;211&gt; 58

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4422

Gly	Arg	Ala	Arg	Leu	Leu	Thr	Pro	Ile	Ile	Pro	Ala	Leu	Trp	Lys	Ala
1				5					10					15	
Glu	Ala	Gly	Glu	Ser	Pro	Glu	Ile	Arg	Ser	Ser	Arg	Pro	Ala	Trp	Pro
			20					25					30		
Thr	Trp	Gln	Asn	Pro	Val	Ser	Thr	Lys	Asn	Thr	Lys	Ile	Cys	Arg	Ala
		35					40					45			
Trp	Trp	Gln	Met	Pro	Val	Ile	Pro	Ala	Thr						
	50						55								

&lt;210&gt; 4423

&lt;211&gt; 2673

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4423

tccggaagtg gcttctgcga caacatgctt gcggacctcg gcttaatcgg aaccataggg  
 60  
 gaggatgacg aggtgccggt ggagcccgag tctgactccg gggacgagga agaggagggg  
 120



cccattgtgc tgggcagacg acaaaaagct ttggggaaga accgcagtgc tgatttcaac  
180  
cctgatttcg ttttactga gaaggagggg acgtacgatg gcagctgggc cctggctgat  
240  
gtcatgagcc aactcaagaa gaagagggca gccactacat tagatgagaa gattgagaaa  
300  
gttcgaaaga aaaggaaaac agaggataaa gaagccaagt ctgggaagtt ggaaaaggag  
360  
aaagaagcaa aggaaggctc tgaaccaagg gagcaggaag accttcaaga gaatgatgag  
420  
gaaggctcag aagatgaagc ctcggagact gactactcat cagctgatga gaacatcctc  
480  
accaaagcag atacactcaa agtaaaggat cggaagaaga agaagaagaa aggacaggaa  
540  
gcaggaggat tttttgaaga tgcattctcag tacgatgaaa acctctcgtt ccaggacatg  
600  
aacctttccc gccctcttct gaaggccatt acagccatgg gcttcaagca gccacccccg  
660  
atccagaagg cgtgcatacc tgtgggtcta ttggggaagg acatctgtgc ctgtgcagcc  
720  
actgggacag gtaaaactgc cgcctttgcc ctgcctgttt tggagcgtct gatttataaa  
780  
ccccgccagg ctccagtcac ccgcgtgctg gtgctagtgc ccacccgaga gctgggcatc  
840  
caggtgcact ctgtcaccag acagctggcc cagttctgca acatcaccac ctgcctggct  
900  
gtgggcggct tggatgtgaa gtctcaggaa gcagctcttc gggcagcgcc tgacatcctc  
960  
atcgccaccc caggccggct catcgatcac ctccacaact gcccttctt ccacctgagc  
1020  
agcatcgagg tgctcatcct ggacgaggct gacaggatgc tggatgagta ctttgaggag  
1080  
cagatgaagg agatcatccg aatgtgttcc caccaccgcc agaccatgct cttctcgccc  
1140  
accatgacag acgaggtgaa agatctggct tctgtctcct tgaagaatcc tgtccggata  
1200  
tttgtgaaca gcaacacaga tgtggctccc ttctgcggc aggagttcat ccggatccgg  
1260  
cctaactcgtg aaggagaccg ggaagccatc gtggcagctt tgttgacgag gaccttact  
1320  
gaccatgtga tgctgttcac gcaaaccaag aagcaggccc accgcatgca catcctcctg  
1380  
gggtcatgg ggctgcaggt gggtagctc catggcaact tgtcacagac gcagcggctg  
1440  
gaggccctcc ggcgttttaa ggatgaacag attgacatcc tcgtggccac tgatgtggca  
1500  
gcccgtggac ttgacattga gggggtcaaa acggtaatca acttcacaat gcctaatacc  
1560  
atcaaacatt atgtccaccg ggtggggcga acagcacgtg ctggcagggc tgggcgctca  
1620  
gtctctctgg tgggagaaga tgagcggaa atgctgaagg agattgtaa agctgccaa  
1680  
gccctgtga aggccaggat acttcccaa gatgtcatcc tcaaattccg ggacaagatt  
1740

gagaaaatgg agaaagatgt gtatgcagtt ctgcagctag aggcggagga aaaagagatg  
 1800  
 cagcagtcag aagcccagat caatacagca aagcggctcc tggagaaggg gaaggaggca  
 1860  
 gtggtccaag agcccagag gagctggttc cagaccaaag aagagaggaa gaaggagaaa  
 1920  
 attgccaaag ctctgcagga atttgacttg gccttaagag gaaagaagaa aaggaagaag  
 1980  
 tttatgaagg atgccaaaa aaagggggag atgacagcag aggaaaggtc tcagtttgaa  
 2040  
 atcctcaagg cgcagatggt tgctgaacgg ctagcgaaga ggaatcgag agccaagcgg  
 2100  
 gcccagacaa tgcccagga ggagccagtg agaggctctg ccaagaagca aaagcagggg  
 2160  
 aagaaatctg tatttgatga agaactcacc aacacaagca agaaggccct gaaacagtat  
 2220  
 cgagctggcc cttcctttga agaaaggaaa cagttgggct tgccccacca gagacgagga  
 2280  
 ggaaacttta aatctaaatc caggtgatac tggctgtttt ggaggggcac atgttttggg  
 2340  
 attagagata aaaacctttc atggaaaaga agcttctcca tcctcattct ggtcttaact  
 2400  
 ctgattttct tacagatata agaggaggaa gtagctgtcg tggcctgaag aaattcatgg  
 2460  
 gggcagccct taaatccctt ccctgtggga agtcacctcg gctggtctgt cttttctcca  
 2520  
 tttgtttaaa aaaaaaacia aaacaaaaaa caacactttg gtgtgggtgg atggtacgta  
 2580  
 gctattttcc taagcatgtc tgtcaatctc ccttcttgct gattagcttt catatgacta  
 2640  
 tattaatatg aagtattttt gggaaaagag aaa  
 2673

&lt;210&gt; 4424

&lt;211&gt; 768

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4424

Ser	Gly	Ser	Gly	Phe	Cys	Asp	Asn	Met	Leu	Ala	Asp	Leu	Gly	Leu	Ile
1				5					10					15	
Gly	Thr	Ile	Gly	Glu	Asp	Asp	Glu	Val	Pro	Val	Glu	Pro	Glu	Ser	Asp
			20					25					30		
Ser	Gly	Asp	Glu	Glu	Glu	Glu	Gly	Pro	Ile	Val	Leu	Gly	Arg	Arg	Gln
		35					40					45			
Lys	Ala	Leu	Gly	Lys	Asn	Arg	Ser	Ala	Asp	Phe	Asn	Pro	Asp	Phe	Val
	50				55					60					
Phe	Thr	Glu	Lys	Glu	Gly	Thr	Tyr	Asp	Gly	Ser	Trp	Ala	Leu	Ala	Asp
65				70					75					80	
Val	Met	Ser	Gln	Leu	Lys	Lys	Lys	Arg	Ala	Ala	Thr	Thr	Leu	Asp	Glu
			85					90					95		
Lys	Ile	Glu	Lys	Val	Arg	Lys	Lys	Arg	Lys	Thr	Glu	Asp	Lys	Glu	Ala
			100					105					110		
Lys	Ser	Gly	Lys	Leu	Glu	Lys	Glu	Lys	Glu	Ala	Lys	Glu	Gly	Ser	Glu

3611

545                      550                      555                      560  
 Ala Pro Val Lys Ala Arg Ile Leu Pro Gln Asp Val Ile Leu Lys Phe  
                          565                      570                      575  
 Arg Asp Lys Ile Glu Lys Met Glu Lys Asp Val Tyr Ala Val Leu Gln  
                          580                      585                      590  
 Leu Glu Ala Glu Glu Lys Glu Met Gln Gln Ser Glu Ala Gln Ile Asn  
                          595                      600                      605  
 Thr Ala Lys Arg Leu Leu Glu Lys Gly Lys Glu Ala Val Val Gln Glu  
                          610                      615                      620  
 Pro Glu Arg Ser Trp Phe Gln Thr Lys Glu Glu Arg Lys Lys Glu Lys  
 625                      630                      635                      640  
 Ile Ala Lys Ala Leu Gln Glu Phe Asp Leu Ala Leu Arg Gly Lys Lys  
                          645                      650                      655  
 Lys Arg Lys Lys Phe Met Lys Asp Ala Lys Lys Lys Gly Glu Met Thr  
                          660                      665                      670  
 Ala Glu Glu Arg Ser Gln Phe Glu Ile Leu Lys Ala Gln Met Phe Ala  
                          675                      680                      685  
 Glu Arg Leu Ala Lys Arg Asn Arg Arg Ala Lys Arg Ala Arg Ala Met  
                          690                      695                      700  
 Pro Glu Glu Glu Pro Val Arg Gly Pro Ala Lys Lys Gln Lys Gln Gly  
 705                      710                      715                      720  
 Lys Lys Ser Val Phe Asp Glu Glu Leu Thr Asn Thr Ser Lys Lys Ala  
                          725                      730                      735  
 Leu Lys Gln Tyr Arg Ala Gly Pro Ser Phe Glu Glu Arg Lys Gln Leu  
                          740                      745                      750  
 Gly Leu Pro His Gln Arg Arg Gly Gly Asn Phe Lys Ser Lys Ser Arg  
                          755                      760                      765

&lt;210&gt; 4425

&lt;211&gt; 5199

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4425

naaatccggt gagcggttaag gaaagtgatg ccaagtcttc gaagcctcag tgacaaacgc  
 60  
 atagcaagaa cacatccact ccagagatac cttctcgaaa caaaagattt tcctacctgc  
 120  
 ttatacttgg taaccgaggg aattactaag acttcttgct catttctgag tattgtcttt  
 180  
 atatcctgac actatgaatg ctacttgatg gcctcttaag tctgttctct ggggaggcag  
 240  
 taaggggccc tggagctggc ctgggcctcg gcatcgggag aggctggact tcctgtctct  
 300  
 ctgtgctgaa tggctgcatg ggcgcccgtc ctactgacg cagcagctga agcacaccat  
 360  
 atccggttca aactggctcc cccatcctct accttggtccc ctggcagtcg cgaaaataac  
 420  
 ggcaacgcca acatccttat tgctgccaac ggaacaaaa gaaaagccat tgctgcagag  
 480  
 gatcccagcc tagatttccg aaataatcct accaaggaag acttgggaaa gctgcaacca  
 540  
 ctggtggcat cttatctctg ctctgatgta acatctgttc cctcaaagga gtctttgaag  
 600

ttgcaagggg tcttcagcaa gcagacagtc cttaaacttc atcctctctt atctcagtc  
660  
tatgaactcc gagctgagct gttggggaga cagccagttt tggagttttc cttagaaaat  
720  
cttagaacca tgaatacgag tggtcagaca gctctgccac aagcacctgt aaatgggttg  
780  
gctaagaaat tgactaaaag ttcaacacat tctgatcatg acaattccac ttcctcaat  
840  
gggggaaaac gggctctcac ttcactctgct cttcatgggg gtgaaatggg aggatctgaa  
900  
tctggggact tgaagggggg tatgaccaat tgcactcttc cacatagaag ccttgatgta  
960  
gaacacacaa ctttgtatag caataatagc actgcaaaca aatcctttgt caattccatg  
1020  
gaacagccgg cacttcaagg aagcagtagg ttatcacctg gtacagactc cagctctaac  
1080  
ttgggggggtg tcaaattgga gggtaaaaag tctcccctgt cttccattct tttcagtgt  
1140  
ttagattctg acacaaggat aacagcttta ctgcggcgac aggctgacat tgagagccgt  
1200  
gcccgagat tacaaaagcg cttacagggt gtgcaagcca agcagggtga gaggcata  
1260  
caacatcagc tgggtggatt tttggagaag actttgagca aactgccaaa cttggaatcc  
1320  
ttgagaccac ggagccagtt gatgctgact cgaaaggctg aagctgcctt gagaaaagct  
1380  
gccagtgaga ccaccacttc agagggactt agcaactttc tgaaaagcaa ttcaatttca  
1440  
gaagaattgg agagatttac agctagtggc atagccaact tgaggtgcag tgaacaggca  
1500  
tttgattcag atgtcactga cagtagttca ggaggggagt ctgatattga agaggaagaa  
1560  
ctgaccagag ctgatcccga gcagcgatc gtaccctga gacgcaggtc agaattgaaa  
1620  
tgggctgcag accgggcagc tattgtcagc cgctggaact ggcttcaggc tcatgtttct  
1680  
gacttggaat atcgaattcg tcagcaaaca gacatttaca aacagatacg tgctaataag  
1740  
gggttgatag ttcttgggga ggtacctccc ccagagcata caacagactt atttcttcca  
1800  
cttagttctg aggtgaagac agatcatggg actgataaat tgattgagtc tgtttctcag  
1860  
ccattggaaa accatgggtg ccctattatt ggtcatattt cagagtcact gtctacaaa  
1920  
tcatgtggag cactcagacc tgtcaatgga gttattaaca ctcttcagcc tgtcttggca  
1980  
gaccacattc caggtgacag ctctgatgct gaggaacaat tacataagaa gcaacgactg  
2040  
aatctcgtct cttcatcatc tgatggcacc tgtgtggcag cccggacacg tcctgtactg  
2100  
agctgtaaga agcggaggct tgttcgaccc aacagcatcg ttcctctttc caagaagggt  
2160  
caccggaaca gcacaatccg ccctggctgt gatgtgaatc cctcctgcgc actgtgtggg  
2220

tcaggcagca tcaacacccat gcctcccgaa attcactatg aagcccctct gttggaacgt  
2280  
ctttcccagt tggactcttg tgttcacccct gttctagcat ttccagatga tgttcccaca  
2340  
agcctgcatt tccagagcat gctgaaatct cagtggcaga acaagccttt tgacaaaatc  
2400  
aaacctccca aaaagttatc gcttaagcac agagcaccca tgccgggcag tctgccagat  
2460  
tcagctcgta aggacaggca caaattggtc agctccttcc taacaacagc caagctgtcc  
2520  
catcacaaa cccggcctga caggaccac aggcagcact tagacgatgt gggggccgtg  
2580  
cccattggtg agcgagtga agcgccaaaa gcagagcgt tgcacaacc accaccacc  
2640  
gtgcataacc caaacacag caaatgaga ttgcgagacc attcatctga gagaagtga  
2700  
gtgttgaagc atcacacaga catgagcagt tcgagctact tggcagccac ccaccatcct  
2760  
ccacacagtc ccttggtgag acagctctcc acctcctcag attcccctgc acccgccagc  
2820  
tttagctcac aggttacagc cagcacatcg cagcagccag taaggaggag aaggggagag  
2880  
agctcatttg atattaacaa cattgtcatc ccaatgtctg ttgctgcaac aactcgcgta  
2940  
gagaaactgc aatacaagga aatccttacg cccagctggc gggagggtga tcttcagctc  
3000  
ctgaagggga gtcctgatga ggagaatgaa gagattgagg acctatccga cgcagccttc  
3060  
gccgccctgc atgccaaatg tgaggagatg gagagggcac ggtggctgtg gaccacgagt  
3120  
gtgccacccc agcggcgggg cagcaggtcc tacaggctcat cagacggccg gacaaccccc  
3180  
cagctgggca gtgccaaccc ctccaccccc cagcctgcct cccctgatgt cagcagtagc  
3240  
cactctttgt cagaatactc ccatggctag tcccctagga gcccattag cccggaactg  
3300  
cactcagcac ccctcacccc tgtggctcgg gacactctgc gacacttagc cagtgaggat  
3360  
accggttgtt ccacaccaga gctggggctg gatgaacagt ctgtccagcc ctgggagcgg  
3420  
cggaccttcc ccctggcgca cagtccccag gcggagtgtg aggaccagct ggatgcacag  
3480  
gagcgagcag cccgctgcac tcgacgcacc tcaggcagca agactnggcc gggagacaga  
3540  
ggcagcgccc acctgcctc ccattgtccc cctcaagagt cggcatctgg tggcagcagc  
3600  
cacagctcag cggccgactc acagatgagc gggagacagc catctaaaca gactcactaa  
3660  
ctattggcat taaagcttca gaaatctctg cgtttgatat tcaaacaatca tatgccggaa  
3720  
attttcacag tttttagtga acttaaggaa tttagatcct actttggtat tttttttct  
3780  
tgttttaatt tttgtttgt tttgtttcc atgttttctt gtcacacacc tgagcacttc  
3840

ctcccgttgg caaacagaag ttcaggatga gacctgctg gcctggtcct ggcacatcct  
3900  
ctgcactgtt gaatcactgg acttactgat cttagatgac caccctctcc ctcacacctg  
3960  
tgggcagggc agaacagcct ggcgggctac agtttagcat ggccttcttg agctagggg  
4020  
gaatggggca ggggtgctctg gactcttacc cctccccctc ccatctgtgg cttgggtctg  
4080  
ctgtggccct cctggctggg tccccttggg ttttctgtgt ggaacatccc caccagagcc  
4140  
tctctgccat aactgccagc tgctctcccc gagtgctcag ctggcagaac acctttcctt  
4200  
tctcaccag aacttaagag actgattttt tgtttcatct gcatttggtc ttctctgttt  
4260  
tgactctttc actgcagtaa cctggctgtg gctgctcagg tccccctct catgccccct  
4320  
ggtacccttc cctgtctgtc ctcccatgcc atgtacacac ccacaaccog tctttccact  
4380  
tgggaatattt ttaccaccta tctgatctt tgaaggtagg gttaggacta cttaacctct  
4440  
attcccactc cctgcaaac tgggggttgt ggggaagtga cagccatctc cctgtgtgat  
4500  
tttttttttt tttttccctc tgattcactt tgccatgttt ctttcacatc cagatccctg  
4560  
tcgggtgttag ttccactctt ggtctttcac gctccccctg cctgtggaac attgtctgg  
4620  
cctagctgtg gttccattg tcccccttc acccttctct gttaaccttg tgccgtctc  
4680  
ctgtatgatc acatcaccaa aaagggggag gggggagaag actctttttt tttggccatt  
4740  
ttgtaatcgt ataaaaatag tagacaactg cttaatgggt ggggtttttt cacaattttc  
4800  
aacattagtg attttttttt ctgtttgcaa gttaaagggt ttgtcattgt ttctttaaaa  
4860  
aaaaaataca ataatgcacc atatccctat gcataaagt cttcttctat ttataagggt  
4920  
gaaaattctg aataaccctt ttagcattga aaaaaaaaac aaaaacaaaa aatggaaaaa  
4980  
aaaaaccttg tattttgtaa atattttctt ttctgtctt ggagctgtgt aatggcagcg  
5040  
aaacatgtag ctgtctttgt tctatagaaa tgcttttctt cagagaagct gatctttgtt  
5100  
aatgtcttga ttctgttcgc aaagcacaga ctagtgctta aaaaaaaaaa agaaggaaaa  
5160  
attgaaaaaa ataaaaaaaa aagttacaga aaaaaaaaaa  
5199

&lt;210&gt; 4426

&lt;211&gt; 1116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4426

Met Ala Ala Met Ala Pro Ala Leu Thr Asp Ala Ala Ala Glu Ala His

	1				5					10					15	
His	Ile	Arg	Phe	Lys	Leu	Ala	Pro	Pro	Ser	Ser	Thr	Leu	Ser	Pro	Gly	
			20					25					30			
Ser	Ala	Glu	Asn	Asn	Gly	Asn	Ala	Asn	Ile	Leu	Ile	Ala	Ala	Asn	Gly	
		35					40					45				
Thr	Lys	Arg	Lys	Ala	Ile	Ala	Ala	Glu	Asp	Pro	Ser	Leu	Asp	Phe	Arg	
		50					55				60					
Asn	Asn	Pro	Thr	Lys	Glu	Asp	Leu	Gly	Lys	Leu	Gln	Pro	Leu	Val	Ala	
65					70				75						80	
Ser	Tyr	Leu	Cys	Ser	Asp	Val	Thr	Ser	Val	Pro	Ser	Lys	Glu	Ser	Leu	
			85						90					95		
Lys	Leu	Gln	Gly	Val	Phe	Ser	Lys	Gln	Thr	Val	Leu	Lys	Ser	His	Pro	
		100						105				110				
Leu	Leu	Ser	Gln	Ser	Tyr	Glu	Leu	Arg	Ala	Glu	Leu	Leu	Gly	Arg	Gln	
		115					120					125				
Pro	Val	Leu	Glu	Phe	Ser	Leu	Glu	Asn	Leu	Arg	Thr	Met	Asn	Thr	Ser	
		130					135				140					
Gly	Gln	Thr	Ala	Leu	Pro	Gln	Ala	Pro	Val	Asn	Gly	Leu	Ala	Lys	Lys	
145					150					155					160	
Leu	Thr	Lys	Ser	Ser	Thr	His	Ser	Asp	His	Asp	Asn	Ser	Thr	Ser	Leu	
				165					170					175		
Asn	Gly	Gly	Lys	Arg	Ala	Leu	Thr	Ser	Ser	Ala	Leu	His	Gly	Gly	Glu	
			180					185				190				
Met	Gly	Gly	Ser	Glu	Ser	Gly	Asp	Leu	Lys	Gly	Gly	Met	Thr	Asn	Cys	
		195					200					205				
Thr	Leu	Pro	His	Arg	Ser	Leu	Asp	Val	Glu	His	Thr	Thr	Leu	Tyr	Ser	
		210				215					220					
Asn	Asn	Ser	Thr	Ala	Asn	Lys	Ser	Phe	Val	Asn	Ser	Met	Glu	Gln	Pro	
225					230					235					240	
Ala	Leu	Gln	Gly	Ser	Ser	Arg	Leu	Ser	Pro	Gly	Thr	Asp	Ser	Ser	Ser	
				245					250					255		
Asn	Leu	Gly	Gly	Val	Lys	Leu	Glu	Gly	Lys	Lys	Ser	Pro	Leu	Ser	Ser	
			260					265					270			
Ile	Leu	Phe	Ser	Ala	Leu	Asp	Ser	Asp	Thr	Arg	Ile	Thr	Ala	Leu	Leu	
		275					280					285				
Arg	Arg	Gln	Ala	Asp	Ile	Glu	Ser	Arg	Ala	Arg	Arg	Leu	Gln	Lys	Arg	
		290				295					300					
Leu	Gln	Val	Val	Gln	Ala	Lys	Gln	Val	Glu	Arg	His	Ile	Gln	His	Gln	
305					310					315					320	
Leu	Gly	Gly	Phe	Leu	Glu	Lys	Thr	Leu	Ser	Lys	Leu	Pro	Asn	Leu	Glu	
				325					330					335		
Ser	Leu	Arg	Pro	Arg	Ser	Gln	Leu	Met	Leu	Thr	Arg	Lys	Ala	Glu	Ala	



435 440 445  
 Trp Asn Trp Leu Gln Ala His Val Ser Asp Leu Glu Tyr Arg Ile Arg  
 450 455 460  
 Gln Gln Thr Asp Ile Tyr Lys Gln Ile Arg Ala Asn Lys Gly Leu Ile  
 465 470 475 480  
 Val Leu Gly Glu Val Pro Pro Pro Glu His Thr Thr Asp Leu Phe Leu  
 485 490 495  
 Pro Leu Ser Ser Glu Val Lys Thr Asp His Gly Thr Asp Lys Leu Ile  
 500 505 510  
 Glu Ser Val Ser Gln Pro Leu Glu Asn His Gly Ala Pro Ile Ile Gly  
 515 520 525  
 His Ile Ser Glu Ser Leu Ser Thr Lys Ser Cys Gly Ala Leu Arg Pro  
 530 535 540  
 Val Asn Gly Val Ile Asn Thr Leu Gln Pro Val Leu Ala Asp His Ile  
 545 550 555 560  
 Pro Gly Asp Ser Ser Asp Ala Glu Glu Gln Leu His Lys Lys Gln Arg  
 565 570 575  
 Leu Asn Leu Val Ser Ser Ser Ser Asp Gly Thr Cys Val Ala Ala Arg  
 580 585 590  
 Thr Arg Pro Val Leu Ser Cys Lys Lys Arg Arg Leu Val Arg Pro Asn  
 595 600 605  
 Ser Ile Val Pro Leu Ser Lys Lys Val His Arg Asn Ser Thr Ile Arg  
 610 615 620  
 Pro Gly Cys Asp Val Asn Pro Ser Cys Ala Leu Cys Gly Ser Gly Ser  
 625 630 635 640  
 Ile Asn Thr Met Pro Pro Glu Ile His Tyr Glu Ala Pro Leu Leu Glu  
 645 650 655  
 Arg Leu Ser Gln Leu Asp Ser Cys Val His Pro Val Leu Ala Phe Pro  
 660 665 670  
 Asp Asp Val Pro Thr Ser Leu His Phe Gln Ser Met Leu Lys Ser Gln  
 675 680 685  
 Trp Gln Asn Lys Pro Phe Asp Lys Ile Lys Pro Pro Lys Lys Leu Ser  
 690 695 700  
 Leu Lys His Arg Ala Pro Met Pro Gly Ser Leu Pro Asp Ser Ala Arg  
 705 710 715 720  
 Lys Asp Arg His Lys Leu Val Ser Ser Phe Leu Thr Thr Ala Lys Leu  
 725 730 735  
 Ser His His Gln Thr Arg Pro Asp Arg Thr His Arg Gln His Leu Asp  
 740 745 750  
 Asp Val Gly Ala Val Pro Met Val Glu Arg Val Thr Ala Pro Lys Ala  
 755 760 765  
 Glu Arg Leu Leu Asn Pro Pro Pro Val His Asp Pro Asn His Ser  
 770 775 780  
 Lys Met Arg Leu Arg Asp His Ser Ser Glu Arg Ser Glu Val Leu Lys  
 785 790 795 800  
 His His Thr Asp Met Ser Ser Ser Ser Tyr Leu Ala Ala Thr His His  
 805 810 815  
 Pro Pro His Ser Pro Leu Val Arg Gln Leu Ser Thr Ser Ser Asp Ser  
 820 825 830  
 Pro Ala Pro Ala Ser Ser Ser Ser Gln Val Thr Ala Ser Thr Ser Gln  
 835 840 845  
 Gln Pro Val Arg Arg Arg Arg Gly Glu Ser Ser Phe Asp Ile Asn Asn  
 850 855 860  
 Ile Val Ile Pro Met Ser Val Ala Ala Thr Thr Arg Val Glu Lys Leu

865                      870                      875                      880  
 Gln Tyr Lys Glu Ile Leu Thr Pro Ser Trp Arg Glu Val Asp Leu Gln  
                                  885                      890                      895  
 Ser Leu Lys Gly Ser Pro Asp Glu Glu Asn Glu Glu Ile Glu Asp Leu  
                                  900                      905                      910  
 Ser Asp Ala Ala Phe Ala Ala Leu His Ala Lys Cys Glu Glu Met Glu  
                                  915                      920                      925  
 Arg Ala Arg Trp Leu Trp Thr Thr Ser Val Pro Pro Gln Arg Arg Gly  
                                  930                      935                      940  
 Ser Arg Ser Tyr Arg Ser Ser Asp Gly Arg Thr Thr Pro Gln Leu Gly  
 945                      950                      955                      960  
 Ser Ala Asn Pro Ser Thr Pro Gln Pro Ala Ser Pro Asp Val Ser Ser  
                                  965                      970                      975  
 Ser His Ser Leu Ser Glu Tyr Ser His Gly Gln Ser Pro Arg Ser Pro  
                                  980                      985                      990  
 Ile Ser Pro Glu Leu His Ser Ala Pro Leu Thr Pro Val Ala Arg Asp  
                                  995                      1000                      1005  
 Thr Leu Arg His Leu Ala Ser Glu Asp Thr Arg Cys Ser Thr Pro Glu  
                                  1010                      1015                      1020  
 Leu Gly Leu Asp Glu Gln Ser Val Gln Pro Trp Glu Arg Arg Thr Phe  
 1025                      1030                      1035                      1040  
 Pro Leu Ala His Ser Pro Gln Ala Glu Cys Glu Asp Gln Leu Asp Ala  
                                  1045                      1050                      1055  
 Gln Glu Arg Ala Ala Arg Cys Thr Arg Arg Thr Ser Gly Ser Lys Thr  
                                  1060                      1065                      1070  
 Xaa Pro Gly Asp Arg Gly Ser Ala His Leu Ala Ser His Cys Pro Pro  
                                  1075                      1080                      1085  
 Gln Glu Ser Ala Ser Gly Gly Ser Ser His Ser Ser Ala Pro Asp Ser  
                                  1090                      1095                      1100  
 Gln Met Ser Gly Arg Gln Pro Ser Lys Gln Thr His  
 1105                      1110                      1115

&lt;210&gt; 4427

&lt;211&gt; 4474

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4427

nntgtggtca gggaaatccag cttcttcggg tcaactcctt cctggaggat tcggatgact  
 60  
 tcagacatca tgggcgcaag acacctggta gtatagaagc caggtccatc ctttaaccaca  
 120  
 atgatgacct tcccctgctt gagaccaact gctacagctg aagcactggt gtctttggaa  
 180  
 gttttctcgg tcgtgataat ctccagcagc tgcattctgt ccacgggaga gaagtagtgc  
 240  
 atgccaatca ccttctcagg tcttttgctg acagcagcga tttcactgat tgggagagca  
 300  
 gatgtgttac tggcaaagat acagtgatct ggaatcaccg cttctacttc ctttagcact  
 360  
 ctgtgcttaa gactaaggtc ctcaaacaca gcttcaatca ccatgtcggc cttttcaaaa  
 420  
 ccttggtaat caagctgccc agtcaagttg ctgaagatgg aatccctttc aaatgatgtt  
 480

agagctttct tcttcacttt gtcattcaat cctttgaaca cttgttgctg tctcggcct  
540  
agcgagtgga ggggtggcatc ttttaagtata gtcttttagcc ccttatccac ggagacttgg  
600  
gcgatgcctg ctcccatcag ccttcgacca agaataagcca gatgcttaac atccttctgt  
660  
cttttgttgc tattctgtat tggcatgaaa tggcaacctc aagtcctcct cccaggcagg  
720  
atccattgat ggcagccaca ataggctttg tggacttttc aagtttctca actattctct  
780  
gtgcttcttg tgatagctgt gttacttctt gaagggtctt gcaagcggct aacatgttga  
840  
tatcagcacc tgcaataaag cagcctggct ttgatgagat aaggacggca cttctgattt  
900  
gatcactagc ccagatttca ttcataactt ctgagaactc tgaatgtagc tcttcagctc  
960  
aagatgggtgg cctgccgggc gattggcatc ctccagccgct tttctgcctt caggatcctc  
1020  
cgctcccgag gttatatatg ccgcaatttt acagggtctt ctgctttgct gaccagaacc  
1080  
catattaact atggagtcaa aggggatgtg gcagttgttc gaattaactc tcccaattca  
1140  
aaggtaaata cactgagtaa agagctacat tcagagttct cagaagttat gaatgaaatc  
1200  
tgggctagtg atcaaatcag aagtgccgtc cttatctcat caaagccagg ctgctttatt  
1260  
gcagggtgctg atatcaacat gttagccgct tgcaagacc ttcaagaagt aacacagcta  
1320  
tcacaagaag cacagagaat agttgagaaa cttgaaaagt ccacaaagcc tatttgggtg  
1380  
gccatcaatg gatcctgcct gggaggagga cttgaggttg ccatttcattg ccaatacaga  
1440  
atagcaacaa aagacagaaa aacagtatta ggtacccttg aagttttgct gggggcctta  
1500  
ccaggagcag gaggcacaca aaggctgccc aaaatgggtg gtgtgcctgc tgctttggac  
1560  
atgatgctga ctggtagaag cattcgtgca gacagggcaa agaaaatggg actggttgac  
1620  
caactggttg aacccttggg accaggacta aaacctccag aggaacggac aatagaatac  
1680  
ctagaagaag ttgcaattac ttttgccaaa ggactagctg ataagaagat ctctccaaag  
1740  
agagacaagg gattggtgga aaaattgaca gcgtatgcca tgactattcc atttgcagg  
1800  
caacaggtt acaaaaaagt ggaagaaaa gtgcgaaagc agactaaagg cctttatcct  
1860  
gcacctctga aaataattga tgtggtaaag actggaattg agcaagggag tgatgccggg  
1920  
tatctctgtg aatctcagaa atttggagag cttgtaatga ccaaagaatc aaaggccttg  
1980  
atgggactct accatggtca ggtcctgtgc aagaagaata aatttggagc cccacagaag  
2040  
gatgttaagc atctggctat tcttgggtgca gggctgatgg gagcaggcat cgcccaagtc  
2100

tccgtggata aggggctaaa gactatactt aaagatgcca ccctcactgc gctagaccga  
2160  
ggacagcaac aagtgttcaa aggattgaat gacaaagtga agaagaaagc tctaacatca  
2220  
tttgaaaggg attccatctt cagcaacttg actgggcagc ttgattacca aggttttgaa  
2280  
aaggccgaca tgggtgattga agctgtgttt gaggacctta gtcttaagca cagagtgcga  
2340  
aaggaagtag aagcggatgat tccagatcac tgtatctttg ccagtaacac atctgctctc  
2400  
ccaatcagtg aaatcgctgc tgtcagcaaa agacctgaga aggtgattgg catgcactac  
2460  
ttctctcccg tggacaagat gcagctgctg gagattatca cgaccgagaa aacttccaaa  
2520  
gacaccagtg cttcagctgt agcagttggg ctcaagcagg ggaaggcat cattgtgggt  
2580  
aaggatggac ctggcttcta tactaccagg tgtcttgctc ccatgatgtc tgaagtcac  
2640  
cgaatcctcc aggaaggagt tgacccgaag aagctggatt ccctgaccac aagctttggc  
2700  
tttctgtgg gtgccgccac actggtggat gaagttggtg tggatgtagc gaaacatgtg  
2760  
gcggaagatc tgggcaaagt ctttggggag cggtttggag gtggaaaccc agaactgctg  
2820  
acacagatgg tgtccaaggg ctctctaggt cgtaaactctg ggaagggctt ttacatctat  
2880  
caggagggtg tgaagaggaa ggatttgaat tctgacatgg atagtatttt agcgagtctg  
2940  
aagctgcctc ctaagtctga agtctcatca gacgaagaca tccagttccg cctggtgaca  
3000  
agatttgtga atgaggcagt catgtgcctg caagagggga tcttggccac acctgcagag  
3060  
ggagacatcg gagccgtctt tgggcttggc ttcccgctt gtctgggagg gcctttccgc  
3120  
tttgtggatc tgtatggcgc ccagaagata gtggaccggc tcaagaaata tgaagctgcc  
3180  
tatggaaaac agttcacccc atgccagctg ctagctgacc atgctaacag ccctaacaag  
3240  
aagttctacc agtgagcagg cctcatgcct cgctcagtc gttttcagat aagccggtgc  
3300  
aagaccgggg tttggtggtg acggacctca aagctgagag tgtggttctt gagcatcgca  
3360  
gctactgctc ggcaaaggcc cgggacagac actttgctgg ggatgtactg ggctatgtca  
3420  
ctccatggaa cagccatggc tacgatgtca ccaaggctct tgggagcaag ttcacacaga  
3480  
tctcaccgt ctggctgcag ctgaagagac gtggccgtga gatgtttgag gtcacggggc  
3540  
tccacgacgt ggaccagggg tggatgagag ctgtcaggaa gcatgccaaag ggctgcaca  
3600  
tagtgctctg gctcctgttt gaggactgga cttacgatga tttccggaac gtcttagaca  
3660  
gtgaggatga gatagaggag ctgagcaaga ccgtgggtcca ggtggcaaag aaccagcatt  
3720

tcgatggctt cgtggtggag gtctggaacc agctgctaag ccagaagcgc gtgggcctca  
 3780  
 tccacatgct caccacttg gccgaggctc tgcaccaggc ccggctgctg gccctcctgg  
 3840  
 tcatcccggc tgccatcacc cccgggaccg accagctggg catgttcacg cacaaggagt  
 3900  
 ttgagcagct ggccccctg ctggatgggt tcagcctcat gacctacgac tactctacag  
 3960  
 cgcacagcc tggccctaata gcaccctgt cctgggttcg agcctgcgtc caggtcctgg  
 4020  
 acccgaagtc caagtggcga agcaaatcc tcctggggct caacttctat ggtatggact  
 4080  
 acgcgacctc caaggatgcc cgtgagcctg ttgtcggggc caggtacatc cagacactga  
 4140  
 aggaccacag gccccggatg gtgtgggaca gccaggcctc agagcacttc ttcgagtaca  
 4200  
 agaagagccg cagtgggagg cacgtcgtct tctaccaac cctgaagtcc ctgcaggtgc  
 4260  
 ggctggagct ggccccggag ctgggcgttg gggctctctat ctgggagctg ggccagggcc  
 4320  
 tggactactt ctacgacctg ctctaggtgg gcattgcggc ctccgcggtg gacgtgttct  
 4380  
 tttctaagcc atggagttag tgagcaggtg tgaaatacag gcctccactc cgtttctgt  
 4440  
 gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
 4474

<210> 4428

<211> 763

<212> PRT

<213> Homo sapiens

<400> 4428

Met Val Ala Cys Arg Ala Ile Gly Ile Leu Ser Arg Phe Ser Ala Phe  
 1 5 10 15  
 Arg Ile Leu Arg Ser Arg Gly Tyr Ile Cys Arg Asn Phe Thr Gly Ser  
 20 25 30  
 Ser Ala Leu Leu Thr Arg Thr His Ile Asn Tyr Gly Val Lys Gly Asp  
 35 40 45  
 Val Ala Val Val Arg Ile Asn Ser Pro Asn Ser Lys Val Asn Thr Leu  
 50 55 60  
 Ser Lys Glu Leu His Ser Glu Phe Ser Glu Val Met Asn Glu Ile Trp  
 65 70 75 80  
 Ala Ser Asp Gln Ile Arg Ser Ala Val Leu Ile Ser Ser Lys Pro Gly  
 85 90 95  
 Cys Phe Ile Ala Gly Ala Asp Ile Asn Met Leu Ala Ala Cys Lys Thr  
 100 105 110  
 Leu Gln Glu Val Thr Gln Leu Ser Gln Glu Ala Gln Arg Ile Val Glu  
 115 120 125  
 Lys Leu Glu Lys Ser Thr Lys Pro Ile Val Ala Ala Ile Asn Gly Ser  
 130 135 140  
 Cys Leu Gly Gly Gly Leu Glu Val Ala Ile Ser Cys Gln Tyr Arg Ile  
 145 150 155 160  
 Ala Thr Lys Asp Arg Lys Thr Val Leu Gly Thr Pro Glu Val Leu Leu

															165						170						175		
Gly	Ala	Leu	Pro				Gly	Ala	Gly	Gly	Thr	Gln	Arg	Leu	Pro	Lys	Met	Val											
				180						185						190													
Gly	Val	Pro	Ala	Ala	Leu	Asp	Met	Met	Leu	Thr	Gly	Arg	Ser	Ile	Arg														
				195			200						205																
Ala	Asp	Arg	Ala	Lys	Lys	Met	Gly	Leu	Val	Asp	Gln	Leu	Val	Glu	Pro														
				210			215			220																			
Leu	Gly	Pro	Gly	Leu	Lys	Pro	Pro	Glu	Glu	Arg	Thr	Ile	Glu	Tyr	Leu														
225				230						235			240																
Glu	Glu	Val	Ala	Ile	Thr	Phe	Ala	Lys	Gly	Leu	Ala	Asp	Lys	Lys	Ile														
				245			250						255																
Ser	Pro	Lys	Arg	Asp	Lys	Gly	Leu	Val	Glu	Lys	Leu	Thr	Ala	Tyr	Ala														
				260			265						270																
Met	Thr	Ile	Pro	Phe	Val	Arg	Gln	Gln	Val	Tyr	Lys	Lys	Val	Glu	Glu														
				275			280						285																
Lys	Val	Arg	Lys	Gln	Thr	Lys	Gly	Leu	Tyr	Pro	Ala	Pro	Leu	Lys	Ile														
				290			295			300																			
Ile	Asp	Val	Val	Lys	Thr	Gly	Ile	Glu	Gln	Gly	Ser	Asp	Ala	Gly	Tyr														
305				310						315			320																
Leu	Cys	Glu	Ser	Gln	Lys	Phe	Gly	Glu	Leu	Val	Met	Thr	Lys	Glu	Ser														
				325			330						335																
Lys	Ala	Leu	Met	Gly	Leu	Tyr	His	Gly	Gln	Val	Leu	Cys	Lys	Lys	Asn														
				340			345						350																
Lys	Phe	Gly	Ala	Pro	Gln	Lys	Asp	Val	Lys	His	Leu	Ala	Ile	Leu	Gly														
				355			360			365																			
Ala	Gly	Leu	Met	Gly	Ala	Gly	Ile	Ala	Gln	Val	Ser	Val	Asp	Lys	Gly														
				370			375			380																			
Leu	Lys	Thr	Ile	Leu	Lys	Asp	Ala	Thr	Leu	Thr	Ala	Leu	Asp	Arg	Gly														
385				390						395			400																
Gln	Gln	Gln	Val	Phe	Lys	Gly	Leu	Asn	Asp	Lys	Val	Lys	Lys	Lys	Ala														
				405			410						415																
Leu	Thr	Ser	Phe	Glu	Arg	Asp	Ser	Ile	Phe	Ser	Asn	Leu	Thr	Gly	Gln														
				420			425						430																
Leu	Asp	Tyr	Gln	Gly	Phe	Glu	Lys	Ala	Asp	Met	Val	Ile	Glu	Ala	Val														
				435			440			445																			
Phe	Glu	Asp	Leu	Ser	Leu	Lys	His	Arg	Val	Leu	Lys	Glu	Val	Glu	Ala														
				450			455			460																			
Val	Ile	Pro	Asp	His	Cys	Ile	Phe	Ala	Ser	Asn	Thr	Ser	Ala	Leu	Pro														
465				470						475			480																
Ile	Ser	Glu	Ile	Ala	Ala	Val	Ser	Lys	Arg	Pro	Glu	Lys	Val	Ile	Gly														
				485			490						495																
Met	His	Tyr	Phe	Ser	Pro	Val	Asp	Lys	Met	Gln	Leu	Leu	Glu	Ile	Ile														
				500			505						510																
Thr	Thr	Glu	Lys	Thr	Ser	Lys	Asp	Thr	Ser	Ala	Ser	Ala	Val	Ala	Val														
				515			520						525																
Gly	Leu	Lys	Gln	Gly	Lys	Val	Ile	Ile	Val	Val	Lys	Asp	Gly	Pro	Gly														
				530			535			540																			
Phe	Tyr	Thr	Thr	Arg	Cys	Leu	Ala	Pro	Met	Met	Ser	Glu	Val	Ile	Arg														
5																													

595										600				605				
Glu	Arg	Phe	Gly	Gly	Gly	Asn	Pro	Glu	Leu	Leu	Thr	Gln	Met	Val	Ser			
610						615				620								
Lys	Gly	Phe	Leu	Gly	Arg	Lys	Ser	Gly	Lys	Gly	Phe	Tyr	Ile	Tyr	Gln			
625					630			635					640					
Glu	Gly	Val	Lys	Arg	Lys	Asp	Leu	Asn	Ser	Asp	Met	Asp	Ser	Ile	Leu			
645					650					655								
Ala	Ser	Leu	Lys	Leu	Pro	Pro	Lys	Ser	Glu	Val	Ser	Ser	Asp	Glu	Asp			
660				665				670				675						
Ile	Gln	Phe	Arg	Leu	Val	Thr	Arg	Phe	Val	Asn	Glu	Ala	Val	Met	Cys			
675				680				685				690						
Leu	Gln	Glu	Gly	Ile	Leu	Ala	Thr	Pro	Ala	Glu	Gly	Asp	Ile	Gly	Ala			
690					695			700					705					
Val	Phe	Gly	Leu	Gly	Phe	Pro	Pro	Cys	Leu	Gly	Gly	Pro	Phe	Arg	Phe			
705					710			715				720						
Val	Asp	Leu	Tyr	Gly	Ala	Gln	Lys	Ile	Val	Asp	Arg	Leu	Lys	Lys	Tyr			
725					730				735				740					
Glu	Ala	Ala	Tyr	Gly	Lys	Gln	Phe	Thr	Pro	Cys	Gln	Leu	Leu	Ala	Asp			
740				745				750				755						
His	Ala	Asn	Ser	Pro	Asn	Lys	Lys	Phe	Tyr	Gln								
755					760													

```
<210> 4429
<211> 981
<212> DNA
<213> Homo sapiens
```

```

4400> 4429
agatctccag cagggtggca aaactgggca cctctctctc ccagcaagag tgagagccct
60
aatccaggca tcacttgccc ctgattttat ttcattttca cacactctgt ttaggagaca
120
ctgcttgctc caactggctc catctctccg ttaccgggtga ggcaggcaca gtgctgcagt
180
ggcagaatgg aagtaccag gctgacttgc tctcagccag acacgacctc ttctctgagg
240
agggtgatgc caataaatgg aactccaata ggtaggcttc gctctgccct tccacaagtg
300
aacacacgcc gtgagtcctt aaatcgccag gctccgcagc ctcgcagaaa gcctagtttc
360
cagacggtag gtatcccatt catcccttgg catcggaac caaagggaaat gcagacagat
420
cccggctctg cactacattc ccaaaccttg gcacgcacgc gaaggcttgg ggcgccccgg
480
cgcgcccctc ctccgaggcc tccaccaccc gcggactcac cactatgcga gctgaaccac
540
ctgggtgcca tgtgcagagg tagagcatcc gccagcgagg ttctgggagg cccggttacc
600
gcttcccgtt tttatggtng accgccgccg gtctcctggg aaccattgcc atgggcatag
660
gtggagtcgg acgcagaccc tccgccgccg ggcgccacta ccaccctgag gtgtccaaag
720
cgccagcgt catcaaccag gccctgtcca tgctgaggt cagcatcgcg cacaccaacg
780

```

acacgccctt ctctctctct ctctctctct ctctctctct ccccccgtc tnnccctccc  
 840  
 gagttctccg gctctcgagg ccggcggggc cgggcggcga acgaacgagc gagcgaacga  
 900  
 acgggcacgc gggccccgcc cgcgcacgcg ccgcgtcgcg gtgggggggt ggggtgtgcgg  
 960  
 aggggaagcgc gcggcggcgg c  
 981

<210> 4430

<211> 151

<212> PRT

<213> Homo sapiens

<400> 4430

Met	Glu	Val	Pro	Arg	Leu	Thr	Cys	Ser	Gln	Pro	Asp	Thr	Thr	Ser	Ser
1				5					10					15	
Leu	Arg	Arg	Val	Met	Pro	Ile	Asn	Gly	Thr	Pro	Ile	Gly	Arg	Leu	Arg
			20					25					30		
Ser	Ala	Leu	Pro	Gln	Val	Asn	Thr	Arg	Arg	Glu	Ser	Leu	Asn	Arg	Gln
			35					40					45		
Ala	Pro	Gln	Pro	Arg	Arg	Lys	Pro	Ser	Phe	Gln	Thr	Val	Gly	Ile	Pro
			50					55				60			
Phe	Ile	Pro	Trp	His	Arg	Glu	Pro	Lys	Gly	Met	Gln	Thr	Asp	Pro	Gly
65					70					75				80	
Arg	Ala	Leu	His	Ser	Gln	Thr	Leu	Ala	Arg	Thr	Arg	Arg	Leu	Gly	Ala
				85					90					95	
Pro	Arg	Arg	Ala	Leu	Pro	Pro	Arg	Pro	Pro	Pro	Pro	Ala	Asp	Ser	Pro
			100					105					110		
Leu	Cys	Glu	Leu	Asn	His	Leu	Gly	Ala	Met	Cys	Arg	Gly	Arg	Ala	Ser
			115					120					125		
Ala	Ser	Glu	Val	Leu	Gly	Gly	Pro	Val	Thr	Ala	Ser	Arg	Phe	Tyr	Gly
			130					135					140		
Xaa	Pro	Pro	Pro	Val	Ser	Trp									
145						150									

<210> 4431

<211> 507

<212> DNA

<213> Homo sapiens

<400> 4431

ggtaggcgagt tcaggaggagc tttcaaggag gccagcaagg tgcctttctg caagttccac  
 60  
 ctgggtgacc gacccatccc cgtcaccttc aagagggcca tcgcagcgcg ctccttctgg  
 120  
 cagaaggtca ggctggcttg gggcctgtgc ttcctgtcag accccatcag gtagggctgc  
 180  
 ccccgaggacc ctggccggcc tgcagggtgg tctgtgggag gctccaggcc ctcctgtgca  
 240  
 ggtccaagcg cagccaatcc tcaactcaagg ccttccctgc cctttccttc cgccacaaat  
 300  
 cccaaacaaa cgtgctgtgg tccctgcccg gtgtccacag tgccagcccc accctccag  
 360



cccgttgccc atccctgcgg ggctgcagcc atccctctcc acagcaagga tgacgtggaa  
 420  
 cgctgcaagc agaaggccta ctggagcaga tgatggccga gatgattggc gagttcccag  
 480  
 acctgcaccg caccatcggt tttggag  
 507

<210> 4432  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 4432  
 Gly Gly Glu Phe Arg Glu Ala Phe Lys Glu Ala Ser Lys Val Pro Phe  
 1 5 10 15  
 Cys Lys Phe His Leu Gly Asp Arg Pro Ile Pro Val Thr Phe Lys Arg  
 20 25 30  
 Ala Ile Ala Ala Leu Ser Phe Trp Gln Lys Val Arg Leu Ala Trp Gly  
 35 40 45  
 Leu Cys Phe Leu Ser Asp Pro Ile Arg  
 50 55

<210> 4433  
 <211> 447  
 <212> DNA  
 <213> Homo sapiens

<400> 4433  
 ntgtacaaca cctcgctgcc gagggagatg gtggccagc tcctcctcgt ggacggcaac  
 60  
 gtgaccaaca tcaccaccgt cagcctctgg gaagaattct cctccagcga cctcgcat  
 120  
 ctccgcttcc tggacatgag ccagaaccag ttccagtacc tgccagacgg ctctctgagg  
 180  
 aaaaatgcctt ccctctccca cctgaacctc caccagaatt gcctgatgac gcttcacatt  
 240  
 cgggagcacg agccccccgg agcgctcacc gagctggacc tgagccacaa ccagctgtcg  
 300  
 gagctgcacc tggctccggg gctggccagc tgctgggca gcctgcgctt gttcaacctg  
 360  
 agtccaacc agctcctggg cgccccccct ggctctctcg ccaatgctag gaacatcact  
 420  
 acacttgaca tgagccacaa tcagatc  
 447

<210> 4434  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 4434  
 Xaa Tyr Asn Thr Ser Ser Pro Arg Glu Met Val Ala Gln Phe Leu Leu  
 1 5 10 15  
 Val Asp Gly Asn Val Thr Asn Ile Thr Thr Val Ser Leu Trp Glu Glu

20 25 30  
 Phe Ser Ser Ser Asp Leu Ala Asp Leu Arg Phe Leu Asp Met Ser Gln  
 35 40 45  
 Asn Gln Phe Gln Tyr Leu Pro Asp Gly Phe Leu Arg Lys Met Pro Ser  
 50 55 60  
 Leu Ser His Leu Asn Leu His Gln Asn Cys Leu Met Thr Leu His Ile  
 65 70 75 80  
 Arg Glu His Glu Pro Pro Gly Ala Leu Thr Glu Leu Asp Leu Ser His  
 85 90 95  
 Asn Gln Leu Ser Glu Leu His Leu Ala Pro Gly Leu Ala Ser Cys Leu  
 100 105 110  
 Gly Ser Leu Arg Leu Phe Asn Leu Ser Ser Asn Gln Leu Leu Gly Val  
 115 120 125  
 Pro Pro Gly Leu Phe Ala Asn Ala Arg Asn Ile Thr Thr Leu Asp Met  
 130 135 140  
 Ser His Asn Gln Ile  
 145

&lt;210&gt; 4435

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4435

ntcgcgaggg atgagggttcg gaatgttttc cgggagctgc agatcatgca agggctggag  
 60  
 cacccttcg tggtaactct gtggtactcc ttccaggatg aggaggacat gttcatggtg  
 120  
 gtggacctgc tcttgggagg cgacctgcgc taccatctgc agcagaatgt gcatttcaca  
 180  
 gaggggactg tgaaaactcta catctgtgag ctggcactgg ccctggagta tcttcagagg  
 240  
 taccacatca tccacagaga catcaagcca gacaatatcc tgctggatga acacggacat  
 300  
 gtccacatta cagacttcaa catagcgacg gtagtgaaag gagcagaaag ggcttcctcc  
 360  
 atggctggca ccaagcccta catggctcca gaagtattcc aggtgtacat ggacagaggg  
 420  
 cccggatact cgtaccctgt cgactggtgg tccctgggca tcacagccta tgagctgctg  
 480  
 cggggctgga ggccgtacga aatccactcg gtcacgcca tcgatgaaat cctcaacatg  
 540  
 ttcaaggtgg agcgtgtcca ctactcctcc acgtggtgca aggggatggt ggccctgcta  
 600  
 aggaagctcc tgaccaagga tctgagagc cgcgtgtcca gccttcatga catacagagc  
 660  
 gtgccctact tggccgacat gaactgggac gcggtgttca agaaggcact gatgccccgg  
 720  
 tttgtgcccc ataaaggagg gttgaactgc gatcccatat ttgagcttga agagatgatt  
 780  
 cta  
 783

&lt;210&gt; 4436

<211> 261  
 <212> PRT  
 <213> Homo sapiens

<400> 4436  
 Xaa Ala Arg Asp Glu Val Arg Asn Val Phe Arg Glu Leu Gln Ile Met  
 1 5 10 15  
 Gln Gly Leu Glu His Pro Phe Val Val Asn Leu Trp Tyr Ser Phe Gln  
 20 25 30  
 Asp Glu Glu Asp Met Phe Met Val Val Asp Leu Leu Leu Gly Gly Asp  
 35 40 45  
 Leu Arg Tyr His Leu Gln Gln Asn Val His Phe Thr Glu Gly Thr Val  
 50 55 60  
 Lys Leu Tyr Ile Cys Glu Leu Ala Leu Ala Leu Glu Tyr Leu Gln Arg  
 65 70 75 80  
 Tyr His Ile Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Leu Asp  
 85 90 95  
 Glu His Gly His Val His Ile Thr Asp Phe Asn Ile Ala Thr Val Val  
 100 105 110  
 Lys Gly Ala Glu Arg Ala Ser Ser Met Ala Gly Thr Lys Pro Tyr Met  
 115 120 125  
 Ala Pro Glu Val Phe Gln Val Tyr Met Asp Arg Gly Pro Gly Tyr Ser  
 130 135 140  
 Tyr Pro Val Asp Trp Trp Ser Leu Gly Ile Thr Ala Tyr Glu Leu Leu  
 145 150 155 160  
 Arg Gly Trp Arg Pro Tyr Glu Ile His Ser Val Thr Pro Ile Asp Glu  
 165 170 175  
 Ile Leu Asn Met Phe Lys Val Glu Arg Val His Tyr Ser Ser Thr Trp  
 180 185 190  
 Cys Lys Gly Met Val Ala Leu Leu Arg Lys Leu Leu Thr Lys Asp Pro  
 195 200 205  
 Glu Ser Arg Val Ser Ser Leu His Asp Ile Gln Ser Val Pro Tyr Leu  
 210 215 220  
 Ala Asp Met Asn Trp Asp Ala Val Phe Lys Lys Ala Leu Met Pro Gly  
 225 230 235 240  
 Phe Val Pro Asn Lys Gly Arg Leu Asn Cys Asp Pro Thr Phe Glu Leu  
 245 250 255  
 Glu Glu Met Ile Leu  
 260

<210> 4437  
 <211> 620  
 <212> DNA  
 <213> Homo sapiens

<400> 4437  
 nnctgcaggg tgtacgtggt ggggacagcc cacttcagcg acgacagcaa gagggacgtt  
 60  
 gtgaagacca tccgggaggt gcagcctgac gtggtggtcg tggagctctg ccaatatcgt  
 120  
 gtgtccatgc tgaagatgga cgagagcacg ctgctgcggg aggccagga gctcagcctg  
 180  
 gagaagctgc agcaggccgt gaggcagaac gggctcatgt cggggctgat gcagatgctg  
 240

ctgctgaagg tgtctgcaca catcaccgag cagctgggca tggccccagg tggcgagttc  
 300  
 agggaggcct tcaaggagge cagcaagggtg cctttctgca agttccacct gggtgaccga  
 360  
 cccatccccg tcaccttcaa gagggccatc gcagcgctct ccttctggca gaaggtcagg  
 420  
 ctggcttggg gcctgtgctt cctgtcagac cccatcagca aggatgacgt ggaacgctgc  
 480  
 aagcagaagg acctactgga gcagatgatg gccgagatga ttggcgagtt cccagacctg  
 540  
 caccgcacca tcgtctcgga gcgcgacgtc tacctaacct acatgctgcg ccaggccgcg  
 600  
 cggcgccctg agctgcctcg  
 620

&lt;210&gt; 4438

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4438

Xaa	Cys	Arg	Val	Tyr	Val	Val	Gly	Thr	Ala	His	Phe	Ser	Asp	Asp	Ser
1			5						10					15	
Lys	Arg	Asp	Val	Val	Lys	Thr	Ile	Arg	Glu	Val	Gln	Pro	Asp	Val	Val
			20					25					30		
Val	Val	Glu	Leu	Cys	Gln	Tyr	Arg	Val	Ser	Met	Leu	Lys	Met	Asp	Glu
		35					40					45			
Ser	Thr	Leu	Leu	Arg	Glu	Ala	Gln	Glu	Leu	Ser	Leu	Glu	Lys	Leu	Gln
		50				55					60				
Gln	Ala	Val	Arg	Gln	Asn	Gly	Leu	Met	Ser	Gly	Leu	Met	Gln	Met	Leu
65				70					75					80	
Leu	Leu	Lys	Val	Ser	Ala	His	Ile	Thr	Glu	Gln	Leu	Gly	Met	Ala	Pro
			85						90					95	
Gly	Gly	Glu	Phe	Arg	Glu	Ala	Phe	Lys	Glu	Ala	Ser	Lys	Val	Pro	Phe
			100					105					110		
Cys	Lys	Phe	His	Leu	Gly	Asp	Arg	Pro	Ile	Pro	Val	Thr	Phe	Lys	Arg
		115				120						125			
Ala	Ile	Ala	Ala	Leu	Ser	Phe	Trp	Gln	Lys	Val	Arg	Leu	Ala	Trp	Gly
		130				135					140				
Leu	Cys	Phe	Leu	Ser	Asp	Pro	Ile	Ser	Lys	Asp	Asp	Val	Glu	Arg	Cys
145					150					155				160	
Lys	Gln	Lys	Asp	Leu	Leu	Glu	Gln	Met	Met	Ala	Glu	Met	Ile	Gly	Glu
			165						170					175	
Phe	Pro	Asp	Leu	His	Arg	Thr	Ile	Val	Ser	Glu	Arg	Asp	Val	Tyr	Leu
			180					185					190		
Thr	Tyr	Met	Leu	Arg	Gln	Ala	Ala	Arg	Arg	Leu	Glu	Leu	Pro		
		195				200							205		

&lt;210&gt; 4439

&lt;211&gt; 2121

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4439

nttttttttt ttgaacttct atatctatat tttatatattt aagattggga cagagaaact  
60  
tcccagatat ttgacgtaag aatttgtttt gaaaaagttt ggtaattaat ataaaactac  
120  
tctaaaaatta actttttattg ttagagacac atcttttagaa aagtttgtaa atatcaacat  
180  
ttaccatctt attttttctt ttgagaccaa gcatcacaga ccaaaagcca caaagtttac  
240  
aataatttat tattgttgca tgacatttgc cagtaaaata aattatagaa actatagagt  
300  
ctttataaac tattttgtat atcatattca cttcctaattg cttactgcag taactgtatg  
360  
aaattttaatt agattacgtt ttagcattag tcagaagatt taaaaaatat gtaaaatggt  
420  
ttcacagtac tttggattta taaaagaccc cattatttta acttttggtc aacctgtttg  
480  
aaatgtataa aaaacctttt acaaaccaaa aggtggcgta aggttttact gagttgctga  
540  
agacatctta ctttcttgaa tttctactta acatccatgt ggtgcacttt ttcaggcatt  
600  
gtaataagtg caaataaata atcaattatt gattttctaaa aatctatacc aatagacaat  
660  
actcaggctt ggaaatatatt tgaacactca gatataaaaa ttcagtaaac aatttatgca  
720  
tggtattttt tctccctgtc ctccctctcc ctccctccctt cccctatcta tttggttaaa  
780  
aaaaaaaaag ttcaacttcg atttaagtcc tagggcctga caaagtgacc ctggataaat  
840  
gtcatctcca gccatctggt ttcttttagtt ctccattacat ctgtccaggc tcttctatca  
900  
gcatcaatcc tttcctgcag ggacggaaga gttttcaaact ccttgctgaa agcattttgt  
960  
tctcctctgt aacagcacag ggcatgaaat tgtttggagt ctttgtaacc agtctgttca  
1020  
gtcctgggtcc ctttccagtc cgggtccctt tccagcctct ggagtcctga cagaagagaa  
1080  
gcttgtaagg tagcagcaaa atgctgcac tggttagaatc tcacaaactc acttggtctt  
1140  
tgaatgtcca ttcttgata acgtccttat ccatcctctt ctcttcagt aactttgatg  
1200  
gaatatattcc gcagtttcag aaactggaaa agcttgtctt ttgtcctctt cttcaaggcc  
1260  
atcagggcac gcgttttctc ctccacatct tgatctatgg caaaaatgat cttggctctc  
1320  
tctctgctt tcttgtctcc agagtttctg aagagccttt ctagtgattc ttggtctgtg  
1380  
ttttcaaaga tgttgccac ggctttctta cgagaggctg tgtcgaagtg gtagccatgg  
1440  
atggatgggc tgactcgtag cgacgtggac atgatgatgg cttggtggct tcgctttgtc  
1500  
ttcatcgtg tggggatctt ccggaattca gctcccaggc tttccatgat tggagctgat  
1560  
tcactgaag agaaattttt gcgtagaatt ggaagattcg gttatgggta tggcccttat  
1620

cagccagttc cagaacaacc actataccca caaccatacc aaccacaata ccaacaatat  
 1680  
 accttttaat atcatcagta actgcaggac atgattatgg aggtttgact ggcaaatacg  
 1740  
 atttctacat ccatattctc atctttcata ccatatcaca ctactaccac tttttgaaga  
 1800  
 attatcataa ggcaatgcag aataaaagaa ataccatgat ttactgtata ctctttgttt  
 1860  
 caggatactt cccttcctaa ttatcatttg attagatact tgcaatttaa actgttaagc  
 1920  
 tgtgttcact gctgtttctg aataatagaa attcattcct ctccaaaagc aataaatttc  
 1980  
 aagcacattt tccaatacct gtggcatcac actactacca ctttttgaag aatcatcaaa  
 2040  
 gggcaatgca aatgaaaaac attataattt actgtatact ctttgtttca ggatacttgc  
 2100  
 cttttcaatt gtcacttgat g  
 2121

<210> 4440

<211> 82

<212> PRT

<213> Homo sapiens

<400> 4440

Met	Asp	Gly	Leu	Thr	Arg	Ser	Asp	Val	Asp	Met	Met	Met	Ala	Trp	Trp
1				5					10					15	
Leu	Arg	Phe	Ala	Phe	Ile	Asp	Val	Gly	Ile	Phe	Arg	Asn	Ser	Ala	Pro
			20					25					30		
Arg	Leu	Ser	Met	Ile	Gly	Ala	Asp	Ser	Ser	Glu	Glu	Lys	Phe	Leu	Arg
		35					40					45			
Arg	Ile	Gly	Arg	Phe	Gly	Tyr	Gly	Tyr	Gly	Pro	Tyr	Gln	Pro	Val	Pro
	50					55				60					
Glu	Gln	Pro	Leu	Tyr	Pro	Gln	Pro	Tyr	Gln	Pro	Gln	Tyr	Gln	Gln	Tyr
65					70				75					80	
Thr	Phe														

<210> 4441

<211> 2055

<212> DNA

<213> Homo sapiens

<400> 4441

nttaggaaggg gaggggaagg ggaaggcgag aaggggagag gcaggggaaa gaggggaaga  
 60  
 gtcgtgggag ctgggagagg agggaaagag gggaagagtc gtgggagctg gcagaggagg  
 120  
 gaaaggggga gccgaacgtg aagggcgaag ggcggggcgg ggcaggagag tcgggggtata  
 180  
 gagcaggcag gtgttaatgg catgggaagg aagagtaaga agtggggcaa gaaggtgtcg  
 240  
 cggtagcagg ggaaggtgag actcaagaag gtgccggcta agaagctggt gccggcgtgg  
 300

aaggagaagg tgctgtgggc cctgctggca gtgctcctgg cgtcgtggag gctgtgggag  
360  
atcaaggatt tccaggaatg cacctggcag gttgtcctga acgagtttaa gagggtaggc  
420  
gagagtgggtg tgagcgacag cttctttgag caagagcccg tggacacagt gagcagcttg  
480  
tttcacatgc tgggtggactc acccatcgac ccgagcgaga aatacctggg cttcccttac  
540  
tacctgaaga tcaactactc ctgcgaggaa aagccctctg aggacctggg gcgcatgggc  
600  
cacctgacgg ggctaaagcc cctggtgctg gtcaccttcc agtccccagt caacttctac  
660  
cgctggaaga tagagcagct gcagatccag atggaggctg ccccttccg cagcaaagg  
720  
gggcctgggg gaggcgggag ggatcgcaac ctggcaggga tgaatatcaa cggcttcctg  
780  
aagagagacc gggacaataa catccaattc actgtgggag aggagctctt caacctgatg  
840  
ccccagtact ttgtgggtgt ctcatcgagg ccttgtggc aactgtgga ccagtcacct  
900  
gtgcttatcc tgggagcat tccaatgag aagtacgtcc tgatgactga caccagcttc  
960  
aaggacttct ctctcgatga ggtgaacggt gtggggcaga tgctgagcat tgacagtgc  
1020  
tgggtgggct cttctactg ccccttctt ggcttcacag ccacctcta tgacactatt  
1080  
gccaccgaga gcacctctt cattcggcag aaccagctgg tctactattt tacaggcacc  
1140  
tataccacac tctatgagag aaaccgaggc agtggtagt gtgctgtggc tggaccacg  
1200  
cctggggagg gcacctggg gaaccctcc actgaaggca gttggattcg tgcctggcc  
1260  
agcgagtga tcaagaagct gtgccctgtg tatttccata gcaatggctc tgagtacata  
1320  
atggccctca ccacgggcaa gcatgagggt tatgtacact tcgggacat cagagttacc  
1380  
acctgtcca taatttggtc tgaatacatc gcgggtgagt atactctact gctgctgggtg  
1440  
gagagtggat atggtaatgc aagtaaactg ttccagggtg tcagctacaa cacagctagt  
1500  
gatgacctgg aacttctcta ccacatccca gaattcatcc ctgaagctcg aggattggag  
1560  
ttcctgatga tcctaggagc agagtctac accagcactg caatggcccc caagggcatc  
1620  
ttctgtaacc cgtacaacaa tctgatcttc atctggggca acttctctc gcagagatct  
1680  
ggtacctct ggagggcagc taccgggtct accagctgtt cccttccaag ggctggcagg  
1740  
tgcacatcag cttaaagctg atgcaacagt cctctctcta cgcattcaat gagaccatgc  
1800  
tgacctctt ctacgaagac agcaaactgt accaggtgcc cgggtggagct atgcggggac  
1860  
atcggggcac cccaggaggg ctgacccag ctcacctggc cctgccttcc ccctgcagct  
1920

ggtgtacctt atgaacaacc agaagggcca gctgggtcaag aggctcgtgc ccgtggagca  
 1980  
 gcttctgatg tatcaacagc acaccagcca ctatgacttg gagcggaag ggtgagaaga  
 2040  
 caccggacca tgaca  
 2055

<210> 4442

<211> 517

<212> PRT

<213> Homo sapiens

<400> 4442

Met	Gly	Arg	Lys	Ser	Lys	Lys	Trp	Gly	Lys	Lys	Val	Ser	Arg	Tyr	Glu
1				5					10					15	
Gly	Lys	Val	Arg	Leu	Lys	Lys	Val	Pro	Ala	Lys	Lys	Leu	Val	Pro	Ala
		20						25					30		
Trp	Lys	Glu	Lys	Val	Leu	Trp	Ala	Leu	Leu	Ala	Val	Leu	Leu	Ala	Ser
	35						40					45			
Trp	Arg	Leu	Trp	Ala	Ile	Lys	Asp	Phe	Gln	Glu	Cys	Thr	Trp	Gln	Val
	50					55					60				
Val	Leu	Asn	Glu	Phe	Lys	Arg	Val	Gly	Glu	Ser	Gly	Val	Ser	Asp	Ser
65					70					75				80	
Phe	Phe	Glu	Gln	Glu	Pro	Val	Asp	Thr	Val	Ser	Ser	Leu	Phe	His	Met
				85					90					95	
Leu	Val	Asp	Ser	Pro	Ile	Asp	Pro	Ser	Glu	Lys	Tyr	Leu	Gly	Phe	Pro
			100					105					110		
Tyr	Tyr	Leu	Lys	Ile	Asn	Tyr	Ser	Cys	Glu	Glu	Lys	Pro	Ser	Glu	Asp
	115					120						125			
Leu	Val	Arg	Met	Gly	His	Leu	Thr	Gly	Leu	Lys	Pro	Leu	Val	Leu	Val
	130					135					140				
Thr	Phe	Gln	Ser	Pro	Val	Asn	Phe	Tyr	Arg	Trp	Lys	Ile	Glu	Gln	Leu
145					150					155					160
Gln	Ile	Gln	Met	Glu	Ala	Ala	Pro	Phe	Arg	Ser	Lys	Gly	Gly	Pro	Gly
				165					170					175	
Gly	Gly	Gly	Arg	Asp	Arg	Asn	Leu	Ala	Gly	Met	Asn	Ile	Asn	Gly	Phe
			180					185					190		
Leu	Lys	Arg	Asp	Arg	Asp	Asn	Asn	Ile	Gln	Phe	Thr	Val	Gly	Glu	Glu
	195						200					205			
Leu	Phe	Asn	Leu	Met	Pro	Gln	Tyr	Phe	Val	Gly	Val	Ser	Ser	Arg	Pro
	210					215					220				
Leu	Trp	His	Thr	Val	Asp	Gln	Ser	Pro	Val	Leu	Ile	Leu	Gly	Gly	Ile
225					230					235				240	
Pro	Asn	Glu	Lys	Tyr	Val	Leu	Met	Thr	Asp	Thr	Ser	Phe	Lys	Asp	Phe
				245					250					255	
Ser	Leu	Val	Glu	Val	Asn	Gly	Val	Gly	Gln	Met	Leu	Ser	Ile	Asp	Ser
		260						265					270		
Cys	Trp	Val	Gly	Ser	Phe	Tyr	Cys	Pro	His	Ser	Gly	Phe	Thr	Ala	Thr
	275						280					285			
Ile	Tyr	Asp	Thr	Ile	Ala	Thr	Glu	Ser	Thr	Leu	Phe	Ile	Arg	Gln	Asn
	290					295					300				
Gln	Leu	Val	Tyr	Tyr	Phe	Thr	Gly	Thr	Tyr	Thr	Thr	Leu	Tyr	Glu	Arg
305					310					315				320	
Asn	Arg	Gly	Ser	Gly	Glu	Cys	Ala	Val	Ala	Gly	Pro	Thr	Pro	Gly	Glu



325 330 335  
 Gly Thr Leu Val Asn Pro Ser Thr Glu Gly Ser Trp Ile Arg Val Leu  
 340 345 350  
 Ala Ser Glu Cys Ile Lys Lys Leu Cys Pro Val Tyr Phe His Ser Asn  
 355 360 365  
 Gly Ser Glu Tyr Ile Met Ala Leu Thr Thr Gly Lys His Glu Gly Tyr  
 370 375 380  
 Val His Phe Gly Thr Ile Arg Val Thr Thr Cys Ser Ile Ile Trp Ser  
 385 390 395 400  
 Glu Tyr Ile Ala Gly Glu Tyr Thr Leu Leu Leu Leu Val Glu Ser Gly  
 405 410 415  
 Tyr Gly Asn Ala Ser Lys Arg Phe Gln Val Val Ser Tyr Asn Thr Ala  
 420 425 430  
 Ser Asp Asp Leu Glu Leu Leu Tyr His Ile Pro Glu Phe Ile Pro Glu  
 435 440 445  
 Ala Arg Gly Leu Glu Phe Leu Met Ile Leu Gly Thr Glu Ser Tyr Thr  
 450 455 460  
 Ser Thr Ala Met Ala Pro Lys Gly Ile Phe Cys Asn Pro Tyr Asn Asn  
 465 470 475 480  
 Leu Ile Phe Ile Trp Gly Asn Phe Leu Leu Gln Arg Ser Gly Thr Ser  
 485 490 495  
 Trp Arg Ala Ala Thr Gly Ser Thr Ser Cys Ser Leu Pro Arg Ala Gly  
 500 505 510  
 Arg Cys Thr Ser Ala  
 515

&lt;210&gt; 4443

&lt;211&gt; 692

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4443

agatctggag ggagggttaag ggctgggttc atgctgactt catttctggt tggatggcct  
 60  
 ccagggttaag gtctggggccc ctgctgctga catccccac atgtcagtct gctgtctagt  
 120  
 gggattgact aactcatcaa cgtggagttt aatgcccac caagtgcaga ccacgctcct  
 180  
 gttttgcgtc accctctgcg aagcttcctg caaacttgac tccctgcccc gtgccccag  
 240  
 ccccaaggct ggtctccagg aggtaaggcc cgccctgcag gcaacaccgg tgcttgggct  
 300  
 cctgctgagc agttctttcc tgcgagtaac agaaccaggg agggaggtgg gctgtggcct  
 360  
 cccctgcccc tacagtcac tctgagct cccaccatgc tggactcatc agcagcagag  
 420  
 caagtgaccc gactgacgct gaagctcttg ggacagaagc tggagcaaga acggcagaac  
 480  
 gtggaagggg gacctgaggg ctccacctcg agccaggaaa tgaggaccgg ccggacgatg  
 540  
 ccctgcagac tgctctgaag agaaggaggg accttctgca gagactccgg gaacaacacc  
 600  
 tcttgacga gctctctcgg gcccaggcct ggagcgggccc aagcagagga gccctcgagt  
 660

cagccctgcc cccagagctg ccccccaacgc gt  
692

<210> 4444

<211> 108

<212> PRT

<213> Homo sapiens

<400> 4444

Met	Ser	Val	Cys	Leu	Leu	Val	Gly	Leu	Thr	Asn	Ser	Ser	Thr	Trp	Ser
1				5					10					15	
Leu	Met	Pro	Asn	Gln	Val	Gln	Thr	Thr	Leu	Leu	Phe	Cys	Val	Thr	Leu
			20					25					30		
Cys	Glu	Ala	Ser	Cys	Lys	Leu	Asp	Ser	Leu	Pro	Ser	Ala	Pro	Ser	Pro
		35					40					45			
Lys	Ala	Gly	Leu	Gln	Glu	Val	Arg	Pro	Ala	Leu	Gln	Ala	Thr	Pro	Val
	50					55					60				
Leu	Gly	Leu	Leu	Leu	Ser	Ser	Ser	Phe	Leu	Arg	Val	Thr	Glu	Pro	Gly
65					70					75				80	
Arg	Glu	Val	Gly	Cys	Gly	Leu	Pro	Cys	Pro	Tyr	Ser	His	Leu	Leu	Gln
			85						90					95	
Leu	Pro	Pro	Cys	Trp	Thr	His	Gln	Gln	Gln	Ser	Lys				
			100					105							

<210> 4445

<211> 901

<212> DNA

<213> Homo sapiens

<400> 4445

ggatccactg cctctgtgcc tgccgtgtact gccgatgctc cagtggataa ctcagcatcc  
60  
cagccaaggc ccaatgccac tgaagatgga cctgccccct ggggaccag gagtcctacc  
120  
actcagctgt ccccaggagt gccagaccc tcattcttat ccaggaccta ggagccctac  
180  
ccctggcctt ccctcatcag ccgtaaatga tgatttactg ctgttaccat catcactgcc  
240  
ttcagtgacc aagggccttc caaggtgcc gctctggaac gaaggatgcc cttgggaggt  
300  
gatgatactc aggtacacgg gtgctcaaca gattgcttcc tcctatcctc agacgggtctt  
360  
tgcattgcatg cagccattgg cactcccatt gtgtggaagg aaaccagccc agggtcacac  
420  
agctgggtcag cagcaacata gctgggtctca aatctaagggt gcctgaccat gcctccatga  
480  
gggaccgcct ccaaggagg ttgatcctgg ctttggggag cctttcctgg gctgcacgaa  
540  
taacctccat tgttcgagac cccaaactct gctcacatct tcctttccct gtctctgctt  
600  
gggctatgat cacgggtgact ctagcaaccc ttcattggaca ttataatact ctctgccatt  
660  
cacttttggg ctaatctgac ttcaaccccc acttacttgg tctctccttt tacaaccaac  
720

atggcaaaac cccatctcca caaaaattgg ataatttgat aattatcatt attgggtttc  
 780  
 tgagacgtta cacatttaac attctcttct gcacaagttg cctttgtgtg agtatactaa  
 840  
 ctttctgtag aggtatactt gtaatcacia ataagaataa attatataaa acaaaaaaaaa  
 900  
 a  
 901

<210> 4446  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 4446  
 Met Leu Gln Trp Ile Thr Gln His Pro Ser Gln Gly Pro Met Pro Leu  
 1 5 10 15  
 Lys Met Asp Leu Pro Pro Gly Asp Pro Gly Val Leu Pro Leu Ser Cys  
 20 25 30  
 Pro Gln Glu Cys Pro Asp Pro His Ser Tyr Pro Gly Pro Arg Ser Pro  
 35 40 45  
 Thr Pro Gly Leu Pro Ser Ser Ala Val Asn Asp Asp Leu Leu Leu Leu  
 50 55 60  
 Pro Ser Ser Leu Pro Ser Val Thr Lys Gly Leu Pro Arg Cys Gln Leu  
 65 70 75 80  
 Trp Asn Glu Gly Cys Pro Trp Glu Val Met Ile Leu Arg Tyr Thr Gly  
 85 90 95  
 Ala Gln Gln Ile Ala Ser Ser Tyr Pro Gln Thr Val Phe Ala Cys Met  
 100 105 110  
 Gln Pro Leu Ala Leu Pro Leu Cys Gly Arg Lys Pro Ala Gln Gly His  
 115 120 125  
 Thr Ala Gly Gln Gln Gln His Ser Trp Ser Gln Ile  
 130 135 140

<210> 4447  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 4447  
 agatgtccaa agagcagcgg ctgcccaggc cttgtgcagc gggcagcgag cagcccaggg  
 60  
 agccaggccc cagacaccgc actcagggcc atggccgaca ggggcccgtg gaggggtgggg  
 120  
 gtgggtgggct atggccgcct cggacagtcc cttgtgtccc gccttctggc tcagggatca  
 180  
 gaactgggccc tagaacttgt ttttgtgtgg aaccgtgacc ctggacgaat ggcagggagt  
 240  
 gtgccccctg ccctgcagct cgaagacctc actacacttg aggaaaggca ccctgacctt  
 300  
 gtggtagaag tggcccatcc aaaaataatc catgaatctg gggtagaaat cctccgtcat  
 360  
 gcaaaccctc tgagccttcg tgtcaccatg gccacacacc ccgatggctt ccggcttgag  
 420

ggacccctgg ctgcagccca cagccctggg ccttgactg tgctctacga aggcctgtc  
 480  
 cgtgggctct gcccctttgc cccgcgaaat tccaacacca tggcggcggc tgccctggct  
 540  
 gccccagcc tgggcttcga tggggtgatt ggggtgctcg tggctgatac cagcctcacg  
 600  
 gacatgcacg tgggtgatgt agagctgagc ggaccccggg gccccacggg ccgaagcttt  
 660  
 gctgtgcaca cccgcagaga gaaccctgcc gagccaggcg cggtcaccgg ctccgccacc  
 720  
 gtcacggcct tctggcggag cctcctggcc tgctgccagc tcccctccag gccggggatc  
 780  
 catctctgct gagaagcctc ctccctcccg agacaagatc atctgcctgg cctctcacca  
 840  
 ccaccatccc acccctgccc tgccccactt cccaggggtc tcccttctga ctcagtaaag  
 900  
 atcacgctg cctccccccg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa a  
 951

<210> 4448

<211> 263

<212> PRT

<213> Homo sapiens

<400> 4448

Arg	Cys	Pro	Lys	Ser	Ser	Gly	Cys	Pro	Gly	Leu	Val	Gln	Arg	Ala	Ala
1				5					10					15	
Ser	Ser	Pro	Gly	Ser	Gln	Ala	Pro	Asp	Thr	Ala	Leu	Arg	Ala	Met	Ala
			20					25					30		
Asp	Arg	Gly	Pro	Trp	Arg	Val	Gly	Val	Val	Gly	Tyr	Gly	Arg	Leu	Gly
		35					40					45			
Gln	Ser	Leu	Val	Ser	Arg	Leu	Leu	Ala	Gln	Gly	Ser	Glu	Leu	Gly	Leu
		50				55					60				
Glu	Leu	Val	Phe	Val	Trp	Asn	Arg	Asp	Pro	Gly	Arg	Met	Ala	Gly	Ser
65					70					75				80	
Val	Pro	Pro	Ala	Leu	Gln	Leu	Glu	Asp	Leu	Thr	Thr	Leu	Glu	Glu	Arg
			85						90					95	
His	Pro	Asp	Leu	Val	Val	Glu	Val	Ala	His	Pro	Lys	Ile	Ile	His	Glu
			100					105					110		
Ser	Gly	Val	Gln	Ile	Leu	Arg	His	Ala	Asn	Leu	Leu	Ser	Leu	Arg	Val
		115					120					125			
Thr	Met	Ala	Thr	His	Pro	Asp	Gly	Phe	Arg	Leu	Glu	Gly	Pro	Leu	Ala
		130				135					140				
Ala	Ala	His	Ser	Pro	Gly	Pro	Cys	Thr	Val	Leu	Tyr	Glu	Gly	Pro	Val
145					150					155				160	
Arg	Gly	Leu	Cys	Pro	Phe	Ala	Pro	Arg	Asn	Ser	Asn	Thr	Met	Ala	Ala
			165						170					175	
Ala	Ala	Leu	Ala	Ala	Pro	Ser	Leu	Gly	Phe	Asp	Gly	Val	Ile	Gly	Val
		180						185					190		
Leu	Val	Ala	Asp	Thr	Ser	Leu	Thr	Asp	Met	His	Val	Val	Asp	Val	Glu
		195					200					205			
Leu	Ser	Gly	Pro	Arg	Gly	Pro	Thr	Gly	Arg	Ser	Phe	Ala	Val	His	Thr
	210				215						220				
Arg	Arg	Glu	Asn	Pro	Ala	Glu	Pro	Gly	Ala	Val	Thr	Gly	Ser	Ala	Thr

225		230		235		240									
Val	Thr	Ala	Phe	Trp	Arg	Ser	Leu	Leu	Ala	Cys	Cys	Gln	Leu	Pro	Ser
				245					250					255	
Arg	Pro	Gly	Ile	His	Leu	Cys									
				260											

&lt;210&gt; 4449

&lt;211&gt; 1365

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4449

```

ncaattgatg atatttatca ttgtgcccag tttctacaaa taaaagatgg gtggattatt
60
ttctcgatgg aggacaaaac ctccaactgt agaagttcta gaaagtatag ataaggaaat
120
tcaagcattg gaagaattta gggaaaaaaa tcagagatta caaaaattat gggttggaag
180
attaattctg tattcctcag ttctctatct gtttacatgc ttaattgtat atttgtggta
240
tcttcctgat gaatttacag caagacttgc catgacactc ccattttttg cttttccatt
300
gatcatctgg agcataagaa cagtaattat tttcttcttt tccaagagaa cagaaagaaa
360
taatgaagca ttggatgatt taaaatccca gagggaaaaa atacttgaag aagtcatgga
420
aaaagaaact tacaagacgg ctaaattaat tcttgaaagg tttgatccgt actcaaagaa
480
agcaaaggag tgtgagccgc catctgctgg agcagctgta actgcaagac ctggacaaga
540
gattcgtcag cgaactgcag ctcaaagaaa ccttttctca caccagcaag ccctaaccag
600
ggccctcctc cacaagttcc agtatctcct ggaccaccaa aggacagttc tgccctgggt
660
ggacccccag aaaggactgt tactccagcc ctatcatcaa atgtgttacc aagacatctt
720
ggatcccctg ctacttcagt gcctggaatg ggtcttcata ctccagggtcc acctttagca
780
agacctattc tcccccgaga acgaggtgct ttggatagaa ttggtgaata tttgggtggg
840
gatggtccac aaaacaggta tgcacttata tgtcagcagt gtttttctca taatggcatg
900
gctttgaagg aagaatttga atacattgct tttcgatgtg cctactgttt tttcttgaac
960
cctgcaagaa aaaccagacc tcagggtcca agacttcctg agtttagttt tgagaagagg
1020
caggtgggtg aaggttcaag ttcagttggg cccttgccat caggaagtgt gctttcatca
1080
gacaaccagt ttaatgaaga atcttttagaa cacgatgttc ttgatgataa tacagagcag
1140
acagatgaca aaataccagc tacagaacag acaaaccaag tgattgaaaa agcatctgac
1200
tcagaggaac cagaggagaa acaagagact gagaatgagg aagcctcagt gattgaaacc
1260

```

aactccacag ttcttgaggc tgattctatt cctgatcctg aactaagtgg agaatctttg  
 1320  
 acggcagagt agtaaagtct tccacgtgcc ttcaactgga aaaaa  
 1365

<210> 4450  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<400> 4450  
 Met Gly Leu His Pro Pro Gly Pro Pro Leu Ala Arg Pro Ile Leu Pro  
 1 5 10 15  
 Arg Glu Arg Gly Ala Leu Asp Arg Ile Val Glu Tyr Leu Val Gly Asp  
 20 25 30  
 Gly Pro Gln Asn Arg Tyr Ala Leu Ile Cys Gln Gln Cys Phe Ser His  
 35 40 45  
 Asn Gly Met Ala Leu Lys Glu Glu Phe Glu Tyr Ile Ala Phe Arg Cys  
 50 55 60  
 Ala Tyr Cys Phe Phe Leu Asn Pro Ala Arg Lys Thr Arg Pro Gln Ala  
 65 70 75 80  
 Pro Arg Leu Pro Glu Phe Ser Phe Glu Lys Arg Gln Val Val Glu Gly  
 85 90 95  
 Ser Ser Ser Val Gly Pro Leu Pro Ser Gly Ser Val Leu Ser Ser Asp  
 100 105 110  
 Asn Gln Phe Asn Glu Glu Ser Leu Glu His Asp Val Leu Asp Asp Asn  
 115 120 125  
 Thr Glu Gln Thr Asp Asp Lys Ile Pro Ala Thr Glu Gln Thr Asn Gln  
 130 135 140  
 Val Ile Glu Lys Ala Ser Asp Ser Glu Glu Pro Glu Glu Lys Gln Glu  
 145 150 155 160  
 Thr Glu Asn Glu Glu Ala Ser Val Ile Glu Thr Asn Ser Thr Val Pro  
 165 170 175  
 Gly Ala Asp Ser Ile Pro Asp Pro Glu Leu Ser Gly Glu Ser Leu Thr  
 180 185 190  
 Ala Glu

<210> 4451  
 <211> 1637  
 <212> DNA  
 <213> Homo sapiens

<400> 4451  
 nntcctggag gacccaggac tgaccaagtc cccggcctca gcaggcgatc atgttggcag  
 60  
 gcttggatct tctcgctctg tgaccagcct gggccacaca ctggtggaat ctgctctcac  
 120  
 gaggccttcc ctgcccagtc cccacaggac ctcacctagg gtggaggaga gcaacagcaa  
 180  
 gctcctggag tcagagagga agctgcagga ggagcgacac cgcaccgtgg tcttggagca  
 240  
 acatctggag aagatacgcc tggagccagg gaaggcatca gcctcccaga gagcagctcc  
 300

caggacaaaa acagctccgc tcctggatgt atgctgtgta cggggccttg gctgtgatgg  
360  
gcacaatggg cccttggtac ctgctgctgc tgcttgggtca ctgtgtgggc ctctatgtgg  
420  
cctcgctttt gggccagccc tggctctgtc ttggccttgg cttggccagc ctggcctcct  
480  
tcaagatgga ccccctaata tcttggcaga gcgggtttgt aacaggcact tttgatcttc  
540  
aagaggtgct gtttcatggg ggcagcagct tcacagtgtc gcgttgacc agctttgcac  
600  
tggagagctg tgcccacct gaccgccact nactccttag ctgacctgct caagtacaac  
660  
ttctacctgc ccttcttctt cttcgggccc atcatgacct ttgatcgctt ccatgctcag  
720  
gtgagccagg tggagccagt gagacgcgag ggtgagctgt ggcacatccg agcccaggca  
780  
ggcctaagcg tgggtggcat catggccgtc gacatcttct ttcacttctt ctacatcctc  
840  
actatcccca gcgacctcaa gtccgccaac cgcctcccag acagtgcctt cgctggccta  
900  
gcctattcaa acctggtgta tgactgggtg aaggcggccg tcctcttttg tgttgtaac  
960  
actgtggcat gcctcgacca cctggacca cccagcctc ccaagtgcac caccgcactc  
1020  
tacgtctttg cggaaacgca ctttgaccgt ggcacaaac actggctttg caaatatgtg  
1080  
tataaccaca ttggtgggga gcattccgt gtgatccag agctggcagc cacagtggcc  
1140  
acatttgcca tcaccacact gtggcttggg ccttgtgaca ttgtctacct gtggtcattc  
1200  
cttaactgct ttggcctcaa ctttgagctc tggatgcaaa aactggcaga gtgggggccc  
1260  
ctagcacgaa ttgaggcctc tctgtcagtg cagatgtccc gtaggggccg ggccctgttt  
1320  
ggagccatga acttctgggc catcatcatg tacaaccttg tgagcctgaa cagcctcaaa  
1380  
ttcacagagc tggttgcccc gcgcctgcta ctcacagggt tccccagac cacgctgtcc  
1440  
atcctgtttg tcacctactg tggcgccag ctggtaaagg agcgtgagcg aaccttggca  
1500  
ctggaggagg agcagaagca ggacaaagag aagccggagt aggagggagc gggtagaggg  
1560  
atgggctctg ctcagctatt cttgggccag atggggcctg accgatagaa taaaagactt  
1620  
ttctacaaca aaaaaaa  
1637

&lt;210&gt; 4452

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4452

Met Gly Ala Ala Ala Ser Gln Cys Cys Val Ala Pro Ala Leu His Trp

```

1           5           10           15
Arg Ala Val Pro Thr Leu Thr Ala Thr Xaa Ser Leu Ala Asp Leu Leu
20           25           30
Lys Tyr Asn Phe Tyr Leu Pro Phe Phe Phe Gly Pro Ile Met Thr
35           40           45
Phe Asp Arg Phe His Ala Gln Val Ser Gln Val Glu Pro Val Arg Arg
50           55           60
Glu Gly Glu Leu Trp His Ile Arg Ala Gln Ala Gly Leu Ser Val Val
65           70           75           80
Ala Ile Met Ala Val Asp Ile Phe Phe His Phe Phe Tyr Ile Leu Thr
85           90           95
Ile Pro Ser Asp Leu Lys Phe Ala Asn Arg Leu Pro Asp Ser Ala Leu
100          105          110
Ala Gly Leu Ala Tyr Ser Asn Leu Val Tyr Asp Trp Val Lys Ala Ala
115          120          125
Val Leu Phe Gly Val Val Asn Thr Val Ala Cys Leu Asp His Leu Asp
130          135          140
Pro Pro Gln Pro Pro Lys Cys Ile Thr Ala Leu Tyr Val Phe Ala Glu
145          150          155          160
Thr His Phe Asp Arg Gly Ile Asn Asp Trp Leu Cys Lys Tyr Val Tyr
165          170          175
Asn His Ile Gly Gly Glu His Ser Ala Val Ile Pro Glu Leu Ala Ala
180          185          190
Thr Val Ala Thr Phe Ala Ile Thr Thr Leu Trp Leu Gly Pro Cys Asp
195          200          205
Ile Val Tyr Leu Trp Ser Phe Leu Asn Cys Phe Gly Leu Asn Phe Glu
210          215          220
Leu Trp Met Gln Lys Leu Ala Glu Trp Gly Pro Leu Ala Arg Ile Glu
225          230          235          240
Ala Ser Leu Ser Val Gln Met Ser Arg Arg Val Arg Ala Leu Phe Gly
245          250          255
Ala Met Asn Phe Trp Ala Ile Ile Met Tyr Asn Leu Val Ser Leu Asn
260          265          270
Ser Leu Lys Phe Thr Glu Leu Val Ala Arg Arg Leu Leu Leu Thr Gly
275          280          285
Phe Pro Gln Thr Thr Leu Ser Ile Leu Phe Val Thr Tyr Cys Gly Val
290          295          300
Gln Leu Val Lys Glu Arg Glu Arg Thr Leu Ala Leu Glu Glu Glu Gln
305          310          315          320
Lys Gln Asp Lys Glu Lys Pro Glu
325

```

&lt;210&gt; 4453

&lt;211&gt; 685

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4453

```

tttttttttt tttttttttt tttttttttt tttttccagt gtggaaactt actttattcc
60
agccatgatt atcctagttg tcaccttgca cacctgccat cgggtgccat ctctggctg
120
gcacatctat acccactctg gctctgaaag gcttgtaaac caaaaatggg cagctggggc
180

```



taaggcatat ttaaacaag gctccaaagg acccctttca cttgggtcta gcatccagcc  
 240  
 tctctctcag caaaggcagg attgtggtcc cttgtgtttt ctgaacaggg cccagggcag  
 300  
 ccaaggcatg ccatcactgc agcactcaac cctctggtca cagtggagtc gccgggtccag  
 360  
 cctgaaatat tactacagag gagaaagacc cattcttgct atgttgctct atcttccacg  
 420  
 tccaaaaaca gtcctatgta gcttcagctg ctccgaaatc aggtcacaga acagcaggag  
 480  
 acattccttt ggcaaaaaag gacacgcttt tgtcctgtat cttatactgg taagtgaagc  
 540  
 tctgatcccg gtggactgcg ggctgcatg gtctcctcca caggatcctc agctacagag  
 600  
 acagagaaga atgaaagagg agcagccacc ccaggacctg ctccactggg aacccccacc  
 660  
 taccttctct gtgcccttca cgcgt  
 685

&lt;210&gt; 4454

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4454

Met	Ile	Ile	Leu	Val	Val	Thr	Leu	His	Thr	Cys	His	Pro	Val	Pro	Ser
1				5					10					15	
Pro	Gly	Trp	His	Ile	Tyr	Thr	His	Ser	Gly	Ser	Glu	Arg	Leu	Val	Asn
			20					25					30		
Gln	Lys	Trp	Ala	Ala	Gly	Ala	Lys	Ala	Tyr	Leu	Asn	Lys	Gly	Ser	Lys
		35					40					45			
Gly	Pro	Leu	Ser	Leu	Gly	Ser	Ser	Ile	Gln	Pro	Leu	Ser	Gln	Gln	Arg
	50					55					60				
Gln	Asp	Cys	Gly	Pro	Leu	Cys	Phe	Leu	Asn	Arg	Ala	Gln	Gly	Ser	Gln
65					70					75					80
Gly	Met	Pro	Ser	Leu	Gln	His	Ser	Thr	Leu	Trp	Ser	Gln	Trp	Ser	Arg
			85						90					95	
Arg	Ser	Ser	Leu	Lys	Tyr	Tyr	Tyr	Arg	Gly	Glu	Arg	Pro	Ile	Leu	Ala
			100					105					110		
Met	Leu	Leu	Tyr	Leu	Pro	Arg	Pro	Lys	Thr	Val	Leu	Cys	Ser	Phe	Ser
		115					120					125			
Cys	Ser	Glu	Ile	Arg	Ser	Gln	Asn	Ser	Arg	Arg	His	Ser	Phe	Gly	Lys
	130					135					140				
Lys	Gly	His	Ala	Phe	Val	Leu	Tyr	Leu	Ile	Leu	Val	Ser	Glu	Ala	Leu
145					150					155					160
Ile	Pro	Val	Asp	Cys	Gly	Leu	Arg	Trp	Ser	Pro	Pro	Gln	Asp	Pro	Gln
			165					170					175		
Leu	Gln	Arg	Gln	Arg	Arg	Met	Lys	Glu	Gln	Pro	Pro	Gln	Asp	Leu	
		180					185					190			
Leu	His	Trp	Glu	Pro	His	Pro	Thr	Phe	Ser	Val	Pro	Phe	Thr	Arg	
		195					200					205			

&lt;210&gt; 4455

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4455

nacgcgtgcc tcagtaccaa cgggctcggc agcagcccgg gcagtgccgg gcacatgaac  
 60  
 ggattaagcc acagcccggg gaaccctcgc accattccca tgaaggacca cgatgccatc  
 120  
 aagctgttca ttgggcagat cccccgcaac ctggatgaga aggacctcaa gcccctcttc  
 180  
 gaggagtttg gcaaaatcta cgagcttacg gttctgaagg acaggttcac aggcattcac  
 240  
 aaaggctgcg ctttctctac ctactgcgag cgtgagtcag cgctgaaggc ccagagcgcg  
 300  
 ctgcacgagc agaagactct gcccgggatg aaccggccga tccaggtgaa gcctgcggac  
 360  
 agcgagagcc gaggagatag tagctgcctg cgccagcccc cttcacatag aaaactcttc  
 420  
 gtgggcatgc tcaacaagca acagtccgag gacgacgtgc gccgcctttt cgaggccttt  
 480  
 gggaacatcg aggagtgcac catcctgcgc gggcccgacg gcaacagcaa ggggtgcgcc  
 540  
 tttgtgaagt actcctccca cgccgaggcg caggccgcca tcaacgcgct acacggcagc  
 600  
 cagaccatgc cgggagcctc gtccagtctg gtggtcaagt tcgccgacac cgacaaggag  
 660  
 cgcacgatgc ggcgaatgca gcagatggct ggccagatgg gcatgttcaa ccccatggcc  
 720  
 atcccttttcg gggcctacgg cgcttacgct caggcactga tgcagcagca agcggccctg  
 780  
 atggcatcag tcgcgcaggg cggctacctg aaccccatgg ctgccttcgc tgccgcccag  
 840  
 atgcagcaga tggcgccct caacatgaat ggcctggcgg cc  
 882

&lt;210&gt; 4456

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4456

Met	Lys	Asp	His	Asp	Ala	Ile	Lys	Leu	Phe	Ile	Gly	Gln	Ile	Pro	Arg
1				5					10					15	
Asn	Leu	Asp	Glu	Lys	Asp	Leu	Lys	Pro	Leu	Phe	Glu	Glu	Phe	Gly	Lys
			20					25					30		
Ile	Tyr	Glu	Leu	Thr	Val	Leu	Lys	Asp	Arg	Phe	Thr	Gly	Met	His	Lys
		35					40					45			
Gly	Cys	Ala	Phe	Leu	Thr	Tyr	Cys	Glu	Arg	Glu	Ser	Ala	Leu	Lys	Ala
	50					55					60				
Gln	Ser	Ala	Leu	His	Glu	Gln	Lys	Thr	Leu	Pro	Gly	Met	Asn	Arg	Pro
65				70						75				80	
Ile	Gln	Val	Lys	Pro	Ala	Asp	Ser	Glu	Ser	Arg	Gly	Asp	Ser	Ser	Cys
			85					90					95		
Leu	Arg	Gln	Pro	Pro	Ser	His	Arg	Lys	Leu	Phe	Val	Gly	Met	Leu	Asn

100										105					110				
Lys	Gln	Gln	Ser	Glu	Asp	Asp	Val	Arg	Arg	Leu	Phe	Glu	Ala	Phe	Gly				
115										120					125				
Asn	Ile	Glu	Glu	Cys	Thr	Ile	Leu	Arg	Gly	Pro	Asp	Gly	Asn	Ser	Lys				
130										135					140				
Gly	Cys	Ala	Phe	Val	Lys	Tyr	Ser	Ser	His	Ala	Glu	Ala	Gln	Ala	Ala				
145										150					155				
Ile	Asn	Ala	Leu	His	Gly	Ser	Gln	Thr	Met	Pro	Gly	Ala	Ser	Ser	Ser				
165										170					175				
Leu	Val	Val	Lys	Phe	Ala	Asp	Thr	Asp	Lys	Glu	Arg	Thr	Met	Arg	Arg				
180										185					190				
Met	Gln	Gln	Met	Ala	Gly	Gln	Met	Gly	Met	Phe	Asn	Pro	Met	Ala	Ile				
195										200					205				
Pro	Phe	Gly	Ala	Tyr	Gly	Ala	Tyr	Ala	Gln	Ala	Leu	Met	Gln	Gln	Gln				
210										215					220				
Ala	Ala	Leu	Met	Ala	Ser	Val	Ala	Gln	Gly	Gly	Tyr	Leu	Asn	Pro	Met				
225										230					235				
Ala	Ala	Phe	Ala	Ala	Ala	Gln	Met	Gln	Gln	Met	Ala	Ala	Leu	Asn	Met				
245										250					255				
Asn	Gly	Leu	Ala	Ala															
260																			

```
<210> 4457
<211> 1491
<212> DNA
<213> Homo sapiens
```

```

<400> 4457
nggctggcag gtgcacatca gcttaaagct gatgcaacag tctctctct acgcatccaa
60
tgagaccatg ctgaccctct tctacgaaga cagcaaactg taccaggtgc ccggtggagc
120
tatgcgggga catcggggca cccagggagg gctgaccca gtcacctgg ccctgccttc
180
cccctgcagc tggtgtacct tatgaacaac cagaagggcc agctgggtcaa gaggctcgtg
240
cccgtggagc agcttctgat gtatcaacag cacaccagcc actatgactt ggagcggaaa
300
gggggctact tgatgctctc cttcatcgac ttctgccct tctcgggtgat gcgcctgcgg
360
agcctgcccc gtccgcagag atacacgcgc caggagcgct accgggcgcg gccgcgcgc
420
gtcctggagc gctcgggctt ccacaacgag aactcgctcg ccatctacca gggcctgggtc
480
tactacctgc tgtggctgca ctccgtgtac gacaaggatt actacttctt cttggcgagc
540
aattggcgaa gcgcggggcgg cgtgtccata gaaatggaca gctacgaaaa gatctacaac
600
ctcgagtccg cgtacgagct gccggagcgc attttctctgg acaagggcac tgagtacagc
660
ttcgccatct tcctgtcggc gcagggccac tcgttcggga cgagtcaga actcgggtctg
720
cgcgggacca gagtggagcc cgaagggcgg ggcgagggt accagaatct gggagcctgg
780

```

ggggcgggga caccatcgga ggggcggggc ctgtctgtgg acgtgggcgt ggtgctggcc  
 840  
 gaccccggt gcatcgaggc ctcggtgaag caggaggtcc tgattaatcg caactcggtg  
 900  
 ctattttcga ttacgtcaa ggataaaaag ctttctatg accaaggcat tagtggacat  
 960  
 caccttatgg agacttccat gacgggtcaat gtgaggtcca agcctggagg ggagggcaag  
 1020  
 cgcctggcct tcgacatcac ctacacgtg gaatacagcc gcctgaagaa caaacactac  
 1080  
 tttgactgcg ttaacgtgaa cccggagatg ccctgcttcc tcttcggga cagtgtctat  
 1140  
 gttctgctgg tgggtgggtg cgggcccaca ctggacagcc tcaaggacta cagtgaggac  
 1200  
 gaaatctacc gttcaacag cccctggac aagaccaaca gccttatctg gaccacgagg  
 1260  
 accacaagga ccaccaaaga ctcagccttt cacatcatgt cccacgagag cccaggcatc  
 1320  
 gagtggtctt gtctggagaa tgcccatgc tatgacaatg ttccccaagg catctttgcc  
 1380  
 cctgaattct tcttcaaggt gttggtgagc aataggtgag ccaggcaagt ggcccagggtg  
 1440  
 cgggtcaggg gctgcccagc gaatgcctgg cttctcctct aatcctggat c  
 1491

<210> 4458

<211> 405

<212> PRT

<213> Homo sapiens

<400> 4458

Met	Asn	Asn	Gln	Lys	Gly	Gln	Leu	Val	Lys	Arg	Leu	Val	Pro	Val	Glu
1				5					10					15	
Gln	Leu	Leu	Met	Tyr	Gln	Gln	His	Thr	Ser	His	Tyr	Asp	Leu	Glu	Arg
			20					25					30		
Lys	Gly	Gly	Tyr	Leu	Met	Leu	Ser	Phe	Ile	Asp	Phe	Cys	Pro	Phe	Ser
		35					40					45			
Val	Met	Arg	Leu	Arg	Ser	Leu	Pro	Ser	Pro	Gln	Arg	Tyr	Thr	Arg	Gln
	50					55				60					
Glu	Arg	Tyr	Arg	Ala	Arg	Pro	Pro	Arg	Val	Leu	Glu	Arg	Ser	Gly	Phe
65					70					75				80	
His	Asn	Glu	Asn	Ser	Leu	Ala	Ile	Tyr	Gln	Gly	Leu	Val	Tyr	Tyr	Leu
			85					90					95		
Leu	Trp	Leu	His	Ser	Val	Tyr	Asp	Lys	Asp	Tyr	Tyr	Phe	Phe	Leu	Ala
			100					105					110		
Ser	Asn	Trp	Arg	Ser	Ala	Gly	Gly	Val	Ser	Ile	Glu	Met	Asp	Ser	Tyr
		115					120					125			
Glu	Lys	Ile	Tyr	Asn	Leu	Glu	Ser	Ala	Tyr	Glu	Leu	Pro	Glu	Arg	Ile
	130					135					140				
Phe	Leu	Asp	Lys	Gly	Thr	Glu	Tyr	Ser	Phe	Ala	Ile	Phe	Leu	Ser	Ala
145				150						155				160	
Gln	Gly	His	Ser	Phe	Arg	Thr	Gln	Ser	Glu	Leu	Gly	Leu	Arg	Gly	Thr
			165					170					175		
Arg	Val	Glu	Pro	Glu	Gly	Arg	Gly	Glu	Gly	Tyr	Gln	Asn	Leu	Gly	Ala

180										185					190				
Trp	Gly	Ala	Gly	Thr	Pro	Ser	Glu	Gly	Arg	Gly	Leu	Ser	Val	Asp	Val				
195							200		205										
Gly	Val	Val	Leu	Ala	Asp	Pro	Gly	Cys	Ile	Glu	Ala	Ser	Val	Lys	Gln				
210						215		220											
Glu	Val	Leu	Ile	Asn	Arg	Asn	Ser	Val	Leu	Phe	Ser	Ile	Thr	Leu	Lys				
225					230		235							240					
Asp	Lys	Lys	Leu	Cys	Tyr	Asp	Gln	Gly	Ile	Ser	Gly	His	His	Leu	Met				
245				250							255								
Glu	Thr	Ser	Met	Thr	Val	Asn	Val	Arg	Ser	Lys	Pro	Gly	Gly	Glu	Gly				
260				265							270								
Lys	Arg	Leu	Ala	Phe	Asp	Ile	Thr	Tyr	Thr	Leu	Glu	Tyr	Ser	Arg	Leu				
275			280							285									
Lys	Asn	Lys	His	Tyr	Phe	Asp	Cys	Val	Asn	Val	Asn	Pro	Glu	Met	Pro				
290		295							300										
Cys	Phe	Leu	Phe	Arg	Asp	Ser	Val	Tyr	Val	Leu	Leu	Val	Val	Gly	Gly				
305					310		315							320					
Gly	Pro	Thr	Leu	Asp	Ser	Leu	Lys	Asp	Tyr	Ser	Glu	Asp	Glu	Ile	Tyr				
325				330							335								
Arg	Phe	Asn	Ser	Pro	Leu	Asp	Lys	Thr	Asn	Ser	Leu	Ile	Trp	Thr	Thr				
340				345							350								
Arg	Thr	Thr	Arg	Thr	Thr	Lys	Asp	Ser	Ala	Phe	His	Ile	Met	Ser	His				
355			360							365									
Glu	Ser	Pro	Gly	Ile	Glu	Trp	Leu	Cys	Leu	Glu	Asn	Ala	Pro	Cys	Tyr				
370		375							380										
Asp	Asn	Val	Pro	Gln	Gly	Ile	Phe	Ala	Pro	Glu	Phe	Phe	Phe	Lys	Val				
385					390		395							400					
Leu	Val	Ser	Asn	Arg															
405																			

```
<210> 4459
<211> 1114
<212> DNA
<213> Homo sapiens
```

```

<400> 4459
cggggccacg ctgttccaca ggcacgctga gcggcttgaa gacccttccc agctccagag
60
aaggcaacac cgagggaggg ccagcaccac agtccatggc agacacatgg ttcagacttg
120
gccgattgat ctaagaaact ttattgctca gaaccttccc tccctgggca atggaaagag
180
ctttggagac cagcccatgg ggacagagtc agaggcactg ggtgtaaaaa aagagcgagc
240
gtgtggcaca tttggtccat tgtcatgtgt gggtatggca ggaggagggg gtaatctaga
300
agccccacat ctagggcctt ctagggaccc agatatgcc ccttaggcaa ggctcacatg
360
ccaaagcaaa gcagatgagg tcagcctggc ttgggttgag ggctcagtgc ctcttagcct
420
tgccctgggg ttcttggacc ttccggaaac tgagccacat caggctcacg ttgatagcat
480
agggtgtgat acaaacatg cagaaatcat agagcacgaa gaacaggatc caggccaggt
540

```

agacagaacc agcgagagac accagggagc tcagcagcat caggacagag gccagcggtg  
 600  
 tccgcaggca acctaacaat agctgtagtg tgtagaagat gcaaccgaat atgctgttgg  
 660  
 attgattgag gatgctgtcc tgtcccagca catgctccac cagcccgaac cccctgcccc  
 720  
 acctggagga gaagacgcgc gaacagctga tggcgggtgcc cacgtcgcag agcgcgcggt  
 780  
 aatccccggtc cggggcgcgc gccgccttca cgtgcagcgc gtagagcgag agcactaagc  
 840  
 ccgtcaggca aagagcgagc cgcacccagc cagggtctcc ccaggtgctg cccattatct  
 900  
 ccaggttccg cccgaggcgc ccgcggagaa aaccagccac ggagcagggg cggggcggcg  
 960  
 aatggccgcg cccctcctgg cctctgact cggcgattgg ccggccgtgc tcgcactcca  
 1020  
 cgacccaaat ggctgttcca gggcgctagt caagcgggag agttaggaaa acagcgaaga  
 1080  
 atgccgggac tagtgaagcg ggtaagggac gtgc  
 1114

&lt;210&gt; 4460

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4460

Trp	Arg	Cys	Pro	Arg	Arg	Arg	Ala	Arg	Gly	Asn	Pro	Gly	Pro	Gly	Arg
1				5					10					15	
Ala	Pro	Pro	Ser	Arg	Ala	Ala	Arg	Arg	Ala	Arg	Ala	Leu	Ser	Pro	Ser
			20					25					30		
Gly	Lys	Glu	Arg	Ala	Ala	Pro	Ser	Gln	Gly	Ser	Pro	Arg	Cys	Cys	Pro
	35					40					45				
Leu	Ser	Pro	Gly	Ser	Ala	Arg	Gly	Ala	Arg	Gly	Glu	Asn	Gln	Pro	Arg
	50				55					60					
Ser	Arg	Gly	Arg	Ala	Ala	Asn	Gly	Arg	Ala	Pro	Pro	Gly	Pro	Leu	Thr
65				70					75					80	
Arg	Arg	Leu	Ala	Gly	Arg	Ala	Arg	Thr	Pro	Arg	Pro	Lys	Trp	Leu	Phe
			85					90					95		
Gln	Gly	Ala	Ser	Gln	Ala	Gly	Glu	Leu	Gly	Lys	Gln	Arg	Arg	Met	Pro
		100					105					110			
Gly	Leu	Val	Lys	Arg	Val	Arg	Asp	Val							
	115						120								

&lt;210&gt; 4461

&lt;211&gt; 488

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4461

acagagtcct acaccagcac tgcaatggcc cccaagggca tcttctgtaa cccgtacaac  
 60  
 aatctgatct tcattctggg caacttctc ctgcagagct ctaacaagga aaacttcac  
 120

tacctggcag acttcccca ggaactgtcc atcaaataca tggccagatc gttccgtggg  
 180  
 gctgtggcta ttgtcacaga gacggaggag gtgggctgcc ccgcccttct cccattccc  
 240  
 tctctgcca ccccaaac ccaggggccc ctctttcccc cgtcacagta aaggagccaa  
 300  
 gggaaggggg caccctcggg gaccctgaga aagggcagtg aagctccatt tataactgaa  
 360  
 actcctggaa ctcagggtaa gtgtcagctc caaagtcacg cagaccggag ctatgatccg  
 420  
 atgttcagag gcggccctct ttcattccac agtgtggtcg ttcacttcat aaatattgag  
 480  
 catttaaa  
 488

&lt;210&gt; 4462

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4462

Thr	Glu	Ser	Tyr	Thr	Ser	Thr	Ala	Met	Ala	Pro	Lys	Gly	Ile	Phe	Cys
1				5					10					15	
Asn	Pro	Tyr	Asn	Asn	Leu	Ile	Phe	Ile	Trp	Gly	Asn	Phe	Leu	Leu	Gln
			20					25					30		
Ser	Ser	Asn	Lys	Glu	Asn	Phe	Ile	Tyr	Leu	Ala	Asp	Phe	Pro	Lys	Glu
			35				40					45			
Leu	Ser	Ile	Lys	Tyr	Met	Ala	Arg	Ser	Phe	Arg	Gly	Ala	Val	Ala	Ile
	50					55					60				
Val	Thr	Glu	Thr	Glu	Glu	Val	Gly	Cys	Pro	Ala	Leu	Leu	Pro	Ile	Pro
65					70					75				80	
Ser	Leu	Pro	Thr	Pro	Lys	Pro	Gln	Gly	Pro	Leu	Phe	Pro	Pro	Ser	Gln
				85					90					95	

&lt;210&gt; 4463

&lt;211&gt; 2662

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4463

nnccacctcc ctctcatggc tagtaggaga gactgggtgct tgccccgccc ggtggactaa  
 60  
 ctcgcttaat tttaaataaa aagtcgagga cacggcggtc gttttcccga agacatgggc  
 120  
 cctcccatgg gccatttgct ccctggaggc cctcgctct tgctgagccc ggggagttag  
 180  
 gatgacgcga gcggtgaggg aaccggaac aattccttca cagaacaatt gaggcgaggc  
 240  
 ctttgggagt actttgtggg acggaccctg gcgggccctg ccagacgcac agggatggcg  
 300  
 gcggaggcgg ccgatttggg gctgggggcc gccgtccccg tggagctgag gcgggagcga  
 360  
 cgcattggtgt gcgtggagta cccgggagtg gtgcgtgatg tggctaagat gctgccgact  
 420

ctgggcggtg aggaaggcgt ctcccggatc tacgcagacc ccaccaagag gctggagctg  
480  
tactttccggc ccaaggaccc atactgccac ccagtgtgcg ccaaccgctt cagtaccagc  
540  
agcctgctgc tccgcatcag gaagagaacg aggcggcaga aaggggtgct gggcactgag  
600  
gcccactccg aggtcacatt tgacatggag atccttggca tcatctccac catttacaaa  
660  
tttcagggga tgtctgactt ccagtacttg gctgtgcata cggaagcagg cggcaagcat  
720  
acgtcaatgt atgacaaggt gctcatgctc cgccccgaga aggaggcctt tttccaccag  
780  
gagctgccgc tctacatccc cccacccatc ttctcccggc tggacgcccc ggtggactac  
840  
ttctaccgac cagagacca gcaccgggaa ggctacaaca atcccccat ctcagggtgag  
900  
aatctgattg gcctgagcag agccccggcg cccacaatg ccatctttgt caactttgag  
960  
gatgaggagg tgcccaagca gccactggag gctgcagccc agacgtggag gagagtctgc  
1020  
actaaccg tggaccggaa ggtggaggag gagctgagga agctgtttga catccgtccc  
1080  
atctggcccc gaaatgctgt caaggccaac atcagcgccc acccagacaa gctcaaggtc  
1140  
ttgcttccct tcatagccta ttacatgata acaggcccct ggcgagcct atggattcga  
1200  
tttggtatg acccccgaaa aaaccagat gccaaagatt atcaagtcct cgatttccga  
1260  
atccgttggtg gaatgaaaca cggttacgcc ccagtgact tgccgggtcaa agcaaagcgc  
1320  
agcacctaca actacagcct ccccatcacc gtcaagaaga catccagcca gcttgtcacc  
1380  
atgcatgacc tgaagcaggg cctggggcgg tcggggacga gtggtgctcg gaaaccagct  
1440  
tccagcaagt acaagctcaa ggactctgtc tacatcttcc gggaaggggc cttgccaccc  
1500  
tatcggcaga tgttctacca gttatgcgac ttgaatgtgg aagagttgca gaagatcatt  
1560  
caccgcaatg acggggcaga gaattcctgc acagaacggg atgggtggtg cctccccaag  
1620  
accagcgacg agctcaggga caccatgtcc ctcatgatcc ggcagacat cgcctccaag  
1680  
aggcctgtc tcttttccag ctacagccaag gctgatggcg gaaaagagca gctgacgtac  
1740  
gagtctgggg aagacgagga ggatgaggag gaggaggaag aggaggagga ggacttcaag  
1800  
ccatccgacg gcagtgaaaa cgaaatggag acagagattc tggactacgt gtgacagggc  
1860  
ccaaggctgg gcctccctga cccggccaga ctggtgtctg gcctaagtag ggagccgggg  
1920  
ctccccattg ccaccacag tgcccgaat ggccttagga ggcctctga ggagagctag  
1980  
agtcccagca aagggtgcag ctgaccctag cactggctgt gacatgctgc ttggtgctgc  
2040



ctctggctct gaggggtag ggacatcccc aaagggata ccctggctct gccacccatg  
 2100  
 aaccagccca gcatccagcc agtgagtggg cacccaatgc ctctcaggat gagaccagta  
 2160  
 aatgccggag gtggagctgg gcagctgtgg agccccaggc cacaggccag tctcgcttgg  
 2220  
 ctctcatgac tgtggtggtg gagatagcgt ggggagcctc gcccatggtc tcacgtggca  
 2280  
 agaagtgcct ttagctctgg atcccaaccg tttggcacag ctttggccac agccaggccc  
 2340  
 ctctggaatt gtccttatta aaccagtttc ccgagaagtc ttggtttctt ggtgtgaatg  
 2400  
 ttggcgctgc aggggagtct tcttattgcc ttggggcttg ggcccccttt gtcccttcat  
 2460  
 atattccttc attcattcct tcattcattc agtgacatgc tggcagtgtc ggctgtgccc  
 2520  
 cccctcacat gtggtcgggt tgggtgaggg cagctaggaa gactccaggg gctgggtcag  
 2580  
 ttcttctcta aatgaatacc cttctgacga agtcatggga gacggggcct gctgtcctgt  
 2640  
 gggctgccag tgtgaaacta gt  
 2662

<210> 4464

<211> 519

<212> PRT

<213> Homo sapiens

<400> 4464

Met	Ala	Ala	Glu	Ala	Ala	Asp	Leu	Gly	Leu	Gly	Ala	Ala	Val	Pro	Val
1			5						10					15	
Glu	Leu	Arg	Arg	Glu	Arg	Arg	Met	Val	Cys	Val	Glu	Tyr	Pro	Gly	Val
		20						25					30		
Val	Arg	Asp	Val	Ala	Lys	Met	Leu	Pro	Thr	Leu	Gly	Gly	Glu	Glu	Gly
	35						40				45				
Val	Ser	Arg	Ile	Tyr	Ala	Asp	Pro	Thr	Lys	Arg	Leu	Glu	Leu	Tyr	Phe
	50					55					60				
Arg	Pro	Lys	Asp	Pro	Tyr	Cys	His	Pro	Val	Cys	Ala	Asn	Arg	Phe	Ser
65					70					75				80	
Thr	Ser	Ser	Leu	Leu	Leu	Arg	Ile	Arg	Lys	Arg	Thr	Arg	Arg	Gln	Lys
			85					90						95	
Gly	Val	Leu	Gly	Thr	Glu	Ala	His	Ser	Glu	Val	Thr	Phe	Asp	Met	Glu
			100					105					110		
Ile	Leu	Gly	Ile	Ile	Ser	Thr	Ile	Tyr	Lys	Phe	Gln	Gly	Met	Ser	Asp
		115					120					125			
Phe	Gln	Tyr	Leu	Ala	Val	His	Thr	Glu	Ala	Gly	Gly	Lys	His	Thr	Ser
	130					135					140				
Met	Tyr	Asp	Lys	Val	Leu	Met	Leu	Arg	Pro	Glu	Lys	Glu	Ala	Phe	Phe
145					150					155				160	
His	Gln	Glu	Leu	Pro	Leu	Tyr	Ile	Pro	Pro	Pro	Ile	Phe	Ser	Arg	Leu
			165					170						175	
Asp	Ala	Pro	Val	Asp	Tyr	Phe	Tyr	Arg	Pro	Glu	Thr	Gln	His	Arg	Glu
		180						185					190		
Gly	Tyr	Asn	Asn	Pro	Pro	Ile	Ser	Gly	Glu	Asn	Leu	Ile	Gly	Leu	Ser

```

      195      200      205
Arg Ala Arg Arg Pro His Asn Ala Ile Phe Val Asn Phe Glu Asp Glu
 210      215      220
Glu Val Pro Lys Gln Pro Leu Glu Ala Ala Ala Gln Thr Trp Arg Arg
 225      230      235      240
Val Cys Thr Asn Pro Val Asp Arg Lys Val Glu Glu Glu Leu Arg Lys
      245      250      255
Leu Phe Asp Ile Arg Pro Ile Trp Ser Arg Asn Ala Val Lys Ala Asn
      260      265      270
Ile Ser Val His Pro Asp Lys Leu Lys Val Leu Leu Pro Phe Ile Ala
      275      280      285
Tyr Tyr Met Ile Thr Gly Pro Trp Arg Ser Leu Trp Ile Arg Phe Gly
 290      295      300
Tyr Asp Pro Arg Lys Asn Pro Asp Ala Lys Ile Tyr Gln Val Leu Asp
 305      310      315      320
Phe Arg Ile Arg Cys Gly Met Lys His Gly Tyr Ala Pro Ser Asp Leu
      325      330      335
Pro Val Lys Ala Lys Arg Ser Thr Tyr Asn Tyr Ser Leu Pro Ile Thr
      340      345      350
Val Lys Lys Thr Ser Ser Gln Leu Val Thr Met His Asp Leu Lys Gln
      355      360      365
Gly Leu Gly Arg Ser Gly Thr Ser Gly Ala Arg Lys Pro Ala Ser Ser
 370      375      380
Lys Tyr Lys Leu Lys Asp Ser Val Tyr Ile Phe Arg Glu Gly Ala Leu
 385      390      395      400
Pro Pro Tyr Arg Gln Met Phe Tyr Gln Leu Cys Asp Leu Asn Val Glu
      405      410      415
Glu Leu Gln Lys Ile Ile His Arg Asn Asp Gly Ala Glu Asn Ser Cys
      420      425      430
Thr Glu Arg Asp Gly Trp Cys Leu Pro Lys Thr Ser Asp Glu Leu Arg
      435      440      445
Asp Thr Met Ser Leu Met Ile Arg Gln Thr Ile Arg Ser Lys Arg Pro
 450      455      460
Ala Leu Phe Ser Ser Ser Ala Lys Ala Asp Gly Gly Lys Glu Gln Leu
 465      470      475      480
Thr Tyr Glu Ser Gly Glu Asp Glu Glu Asp Glu Glu Glu Glu Glu
      485      490      495
Glu Glu Glu Asp Phe Lys Pro Ser Asp Gly Ser Glu Asn Glu Met Glu
      500      505      510
Thr Glu Ile Leu Asp Tyr Val
      515

```

&lt;210&gt; 4465

&lt;211&gt; 1291

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4465

```

gggctggagc gccaggttcg ggccgagatc gagcacaaga aggaggagct gcggcagatg
60
gtgggcgaac ggtaccgcga cctgatcgag gcgnccgaca ccatcggcca gatgcgccgt
120
ngcgccgtgg ggctagtggg cgccgtgaag gccaccgacc agtactgcgc ccgcctccgc
180

```

caggccggct cggccgcgcc cgggccaccg cgggcccagc agccacagca gccatcccaa  
 240  
 gagaagttct acagcatggc tgccagatca agctactctt agaaattccg gagaagatct  
 300  
 ggagctcgat ggaagcctct cagtgtctcc acgccacacn agctctacct gctctgctgc  
 360  
 cacctccaca gcctgctcca gctggattct tctagttccc gatacagtcc cgctctctcc  
 420  
 cggtttcccta tactcatccg gcagggtggcg gccgccagcc acttcgggtc aactattctg  
 480  
 catgaaagca agatgttgct caaatgccaa ggtgtgtctg accaagctgt ggccgaggcc  
 540  
 ctgtgtctta taatgtctctt agaagagagt tctctctgcc aagccctcac agacttctg  
 600  
 ctggccagaa aggcaactat tcagaaactt ctcaaccagc cacaccatgg tgctgggtatc  
 660  
 aaggctcaga tttgctcatt agtggagttg ctggccacca ctctgaagca agctcatgcc  
 720  
 cttttctaca ctttgccaga aggactgctg ccagatccag ccctgccatg tggcttgctc  
 780  
 ttctctactc tggagaccat cacaggccag catctgccg gaaagggcac tgggtgctctg  
 840  
 caggaagaga tgaaactctg cagctggttt aaacacctgc cagcatccat cgctcagttc  
 900  
 cagccaacac tccgaaccct tgcacatccc atcagtcagg aatacctgaa agacacgctg  
 960  
 cagaaatgga tccacatgtg taatgaagac attaaaaatg ggatcaccaa cctgctcatg  
 1020  
 tacgtgaaga gcatgaaggg tctcgcggga atccgggacg ccatgtggga gttacttacc  
 1080  
 agtgagtcca ccaatcacag ctgggatgtg ctatgtaccc gcnttctgga gaagccgctc  
 1140  
 ttgttctggg aagatatgat gcagcaactg ttccttgacc gattacagac tctgacaaaa  
 1200  
 gaaggctttg actccatctc cagtagtncc aaggagctct tggtttcang tttgcaggaa  
 1260  
 cttgaaagca gcaccagcaa ctcccacttc a  
 1291

<210> 4466

<211> 93

<212> PRT

<213> Homo sapiens

<400> 4466

Gly	Leu	Glu	Arg	Gln	Val	Arg	Ala	Glu	Ile	Glu	His	Lys	Lys	Glu	Glu
1				5				10						15	
Leu	Arg	Gln	Met	Val	Gly	Glu	Arg	Tyr	Arg	Asp	Leu	Ile	Glu	Ala	Xaa
			20					25					30		
Asp	Thr	Ile	Gly	Gln	Met	Arg	Arg	Xaa	Ala	Val	Gly	Leu	Val	Asp	Ala
		35					40					45			
Val	Lys	Ala	Thr	Asp	Gln	Tyr	Cys	Ala	Arg	Leu	Arg	Gln	Ala	Gly	Ser
	50					55					60				
Ala	Ala	Pro	Arg	Pro	Pro	Arg	Ala	Gln	Gln	Pro	Gln	Gln	Pro	Ser	Gln

65		70		75		80						
Glu	Lys	Phe	Tyr	Ser	Met	Ala	Ala	Arg	Ser	Ser	Tyr	Ser
				85					90			

&lt;210&gt; 4467

&lt;211&gt; 1142

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4467

```

nnagatgtcc ctaaggtaga ggtgttgga cgggagctgg cctggctgaa ggagcatctg
60
tcccagctgg agtcccctgt ggtgttttgt cacaatgacc tgctctgcaa gaatatcatc
120
tatgacagca tcaaagggtca cgtgcgggttc attgactatg aatatgctgg ctacaactac
180
caagcttttg acattggcaa ccatttcaat gagtttgag gcgtgaatga ggtggattac
240
tgcctgtacc cggcgcgga gaccagctg cagtggctgc actactacct gcaggcacia
300
aaggggatgg ccgtgacccc caggaggtg caaaggctct acgtgcaagt caacaagttt
360
gccctggcgt ctcaattctt ctgggctctc tgggccctca tccagaacca gtactccacc
420
atcgactttg atttcctcag gtacgcagtg atccgattca accagtactt caagggtgaag
480
cctcaagcgt cagccttgga gatgccaaag tgaccagcca ccccatccct cccctaccca
540
tctgtctggc cagacctgtt ctccagagct caattctgca ctctgggatc cacacccttg
600
gacaggggtg gagaggggac acatgggtgt ccaggagaga ggctctgtcc ctgccgccag
660
accccagtgg ttgccactga agacctcatt ctctgtctg gaggggctga taggaccccc
720
ttccgggggt ccccttcacc ccaccaggct tgggaggaag tgcctgcagc caggctcctga
780
accataacca cccctgggaa acacatcatt cccagcctca ggcctgctg gaattggggc
840
tgccttatat gtgtgtttac cccttctctg cctggggaag gaggcgggga gggctccttt
900
ctacctccag tgcctgagc ctccagtcg tctccccctg catgccccat gtgggaggtg
960
ctgagctcca aaccagcatc acaccaactc tgacacatgg atgtacctat cttggtgatg
1020
ggtggggggc aagaattgag catgacatct tccccagcag ccacctctc tgagatccct
1080
caccttctcc aaaccagatc caatcaaacc tcagcccgag gaaacatgct cccctcacgc
1140
gt
1142

```

&lt;210&gt; 4468

&lt;211&gt; 170

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4468

Xaa Asp Val Pro Lys Val Glu Val Leu Glu Arg Glu Leu Ala Trp Leu  
 1 5 10 15  
 Lys Glu His Leu Ser Gln Leu Glu Ser Pro Val Val Phe Cys His Asn  
 20 25 30  
 Asp Leu Leu Cys Lys Asn Ile Ile Tyr Asp Ser Ile Lys Gly His Val  
 35 40 45  
 Arg Phe Ile Asp Tyr Glu Tyr Ala Gly Tyr Asn Tyr Gln Ala Phe Asp  
 50 55 60  
 Ile Gly Asn His Phe Asn Glu Phe Ala Gly Val Asn Glu Val Asp Tyr  
 65 70 75 80  
 Cys Leu Tyr Pro Ala Arg Glu Thr Gln Leu Gln Trp Leu His Tyr Tyr  
 85 90 95  
 Leu Gln Ala Gln Lys Gly Met Ala Val Thr Pro Arg Glu Val Gln Arg  
 100 105 110  
 Leu Tyr Val Gln Val Asn Lys Phe Ala Leu Ala Ser His Phe Phe Trp  
 115 120 125  
 Ala Leu Trp Ala Leu Ile Gln Asn Gln Tyr Ser Thr Ile Asp Phe Asp  
 130 135 140  
 Phe Leu Arg Tyr Ala Val Ile Arg Phe Asn Gln Tyr Phe Lys Val Lys  
 145 150 155 160  
 Pro Gln Ala Ser Ala Leu Glu Met Pro Lys  
 165 170

&lt;210&gt; 4469

&lt;211&gt; 409

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4469

atctatgatg cacaacatgc caatttggct ggcacgctga ggggccatgc ctctgggtg  
 60  
 ctgaacgttg cattctgtcc tgatgacact cactttgttt ccagatccca gtgttggtca  
 120  
 ggcctgggat ggccaagaca gttggaaagc aggagatgga caacttgaag gcattgcaca  
 180  
 gtgctttaga ggctcctgc gagccttggg tttgaagctt taacaggcct ccctcccatc  
 240  
 tggaaatagg tagctgtgtc tgagactcct ggagaacaat taatatgagg gccaggcaga  
 300  
 tcacaatttc aggaaaatgg ctaccctgtg aggagagaaa gccaccaat gatgctgata  
 360  
 cctggccatt tcctgtaccg aggcattgng ttgggggggtc tgaagttag  
 409

&lt;210&gt; 4470

&lt;211&gt; 55

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4470

Ile Tyr Asp Ala Gln His Ala Asn Leu Ala Gly Thr Leu Ser Gly His

1	5	10	15
Ala Ser Trp Val Leu Asn Val Ala Phe Cys Pro Asp Asp Thr His Phe			
	20	25	30
Val Ser Arg Ser Gln Cys Trp Ser Gly Leu Gly Trp Pro Arg Gln Leu			
	35	40	45
Glu Ser Arg Arg Trp Thr Thr			
50	55		

&lt;210&gt; 4471

&lt;211&gt; 1771

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4471

```

ctgggccccca atcaccacgc tgtgctcccc acaccgcaa ggctccccct cctcagcctt
60
agtttcctct tctggaaatt ggggaatctt catgtcacct tcttgacagc atttgccagg
120
catccagcag gcgcttaata aatggccaag tcattgtttg ggtttctaaa taaggctctc
180
ctaattggccg ggtctggcca cggctcccagt gtccttgggc agccctccga ggggcccggca
240
cagggcgcac tataaatgag cggctgcgca cgcaggggca ctgcaacgcg gaggagcagg
300
atggagatcc ctgtgcctgt gcagccgtct tggctgcgcc gcgcctcggc cccgttgccc
360
ggactttcgg cgcccggaag cctctttgac cagcgcttcg gcgaggggct gctggaggcc
420
gagctggctg cgctctgccc caccacgctc gcccctact acctgcgcgc acccagcgtg
480
gcgctgcccg tcgcccaggt gccgacggac cccggccact ttctgggtgt gctagacgtg
540
aagcatttct cgccggagga aattgtgtgc aaggtggtgg gcgaacacgt ggagggtgcac
600
gcgcgccacg aggagcgcgc ggatgagcac ggattcgtcg cgcgcgagtt ccaccgtcgc
660
taccgcctgc cgcttggcgt ggatccggct gccgtgacgt ccgcgctgtc ccccgagggc
720
gtcctgtcca tccaggccgc accagcgtcg gccaggccc caccgccagc cgcagccaag
780
taggaggggg ctgggcccgc cccgcacccc gggagcctcc tcaggctccc tctattaaag
840
ccgatctgac tccgccagc cagatgtccc gagtgcgcca aggactgtcc tctcaccac
900
tcctggattc tgcctgacc tccatcctgg aactgcctt gataacatag acccttccac
960
tgacaccctc gctctcacac cccctccagc ttccgaccc cacaccgaca actccccggc
1020
ttccagaccc taccagcact accctaacct tcagccgaca gtctcagccc caccgaccca
1080
ctttcttggc atatagcccc acttaagacc cctcctctac ttcttctga gtcctctaca
1140
aagacatccg ggtactacat ttccatccct tccctatttt gacaccaa at tatggtgtag
1200

```

acagccctcc cccaaccca ggccagtcag gcacaatccc cccaccccc aaacgtcctg  
 1260  
 gactgcacag acctccact ccagaccatc caggcctggt tcccaagacc cgatccttcc  
 1320  
 cctgcaacca gacagtctac aactgcccc tccagcccat tttctgccgt gaaaccccag  
 1380  
 ccagccacac cagactctgg aacccttttt cgactgcccc aactcttgga caccaggcca  
 1440  
 actagaacac ccaacaccaa actgtacaga ctctcccacc ccaacctccc cagactctgc  
 1500  
 acggatgtcc taggccccct cccaactct aaccagaccc catcccccta agtccctttg  
 1560  
 tcttgacccc caagtcttca accagatatt ctgggcaacc cacctccac cctcctctc  
 1620  
 ttctccttca agacccaact gagcacccgc tetgattccc cacagccttt ctccctgcca  
 1680  
 ccactccctt agtctttccc aggettactc tccaataaa tgtgctagag ctctgcaaaa  
 1740  
 aaaagaaaaa aaagtcgacg cggccggaat t  
 1771

&lt;210&gt; 4472

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4472

Met	Glu	Ile	Pro	Val	Pro	Val	Gln	Pro	Ser	Trp	Leu	Arg	Arg	Ala	Ser
1				5				10						15	
Ala	Pro	Leu	Pro	Gly	Leu	Ser	Ala	Pro	Gly	Arg	Leu	Phe	Asp	Gln	Arg
			20					25					30		
Phe	Gly	Glu	Gly	Leu	Leu	Glu	Ala	Glu	Leu	Ala	Ala	Leu	Cys	Pro	Thr
		35				40						45			
Thr	Leu	Ala	Pro	Tyr	Tyr	Leu	Arg	Ala	Pro	Ser	Val	Ala	Leu	Pro	Val
	50					55					60				
Ala	Gln	Val	Pro	Thr	Asp	Pro	Gly	His	Phe	Ser	Val	Leu	Leu	Asp	Val
65				70						75				80	
Lys	His	Phe	Ser	Pro	Glu	Glu	Ile	Ala	Val	Lys	Val	Val	Gly	Glu	His
			85					90					95		
Val	Glu	Val	His	Ala	Arg	His	Glu	Glu	Arg	Pro	Asp	Glu	His	Gly	Phe
			100					105					110		
Val	Ala	Arg	Glu	Phe	His	Arg	Arg	Tyr	Arg	Leu	Pro	Pro	Gly	Val	Asp
		115					120					125			
Pro	Ala	Ala	Val	Thr	Ser	Ala	Leu	Ser	Pro	Glu	Gly	Val	Leu	Ser	Ile
	130					135					140				
Gln	Ala	Ala	Pro	Ala	Ser	Ala	Gln	Ala	Pro	Pro	Pro	Ala	Ala	Ala	Lys
145					150				155					160	

&lt;210&gt; 4473

&lt;211&gt; 1255

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4473

gccggcgcgga tgccccgccc cttcgatagc tcattctttgc gcgcccgcagt cgcgcggagc  
 60  
 ccggcttccg acgtgcagcc tggcagtgca gtgagctgtc tggccttttg tccttgatcc  
 120  
 ttggttaagg aaatgaccaa ccagtacggg attctcttca aacaagagca agcccatgat  
 180  
 gatgccattt ggtcagttgc ttgggggaca aacaagaagg aaaactctga gacagtggtc  
 240  
 acaggctccc tagatgacct ggtgaaggtc tggaaatggc gtgatgagag gctggaccta  
 300  
 cagtgagtc tggagggaca tcagctggga gtggtgtctg tggacatcag ccacaccctt  
 360  
 cccattgctg cctccagttc tctagatgct catattcgac tctgggactt ggaaaatggc  
 420  
 aaacagatga agtctataga tgcaggaccg gtggatgcct ggactttggc attctctccg  
 480  
 gactcccagc atctggcaac aggaactcac atggggaaag tgaacatttt tgggtgtggaa  
 540  
 agtggaaaaa agaatactc tttggacact agaggaaaat tcatccttag tattgcatat  
 600  
 agtcctgatg gaaaatacct ggccagcgga gccatagatg gaatcatcaa tatttttgat  
 660  
 attgcaactg gaaaacttct gcataccctg gaaggccatg ccatgcccac tcgctccttg  
 720  
 accttttccc cggactccca gtccttgtc actgcttcag atgatggcta catcaagatc  
 780  
 tatgatgtac aacatgccaa tttggctggc acgctgagcg gccatgcctc ctgggtgctg  
 840  
 aacgttgcat tctgtctga tgacactcac tttgtttcca gttcgtctga caaaagtga  
 900  
 aaagtttggg atgttggaac gaggacttgt gttcacacct tctttgatca ccaggatcag  
 960  
 gtctggggag taaaatacaa tggaaatggt tcaaaaattg tgtctgttgg agatgaccag  
 1020  
 gaaattcaca tctatgattg tccaatttaa acatcaaagt ctccaggctt atgctgcaaa  
 1080  
 gagaatgtac ggattgatca tgacattcct taccttctta ggcttgttta aaagaaatat  
 1140  
 agcatttatt gtagcaaaga cttaaatttt gtagatacaa tatgaatctt ttcattgttt  
 1200  
 attggaaatg ctgttcatac tttaacataa agctttctta atgcaaaaaa aaaaa  
 1255

&lt;210&gt; 4474

&lt;211&gt; 305

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4474

Met	Thr	Asn	Gln	Tyr	Gly	Ile	Leu	Phe	Lys	Gln	Glu	Gln	Ala	His	Asp
1			5						10					15	
Asp	Ala	Ile	Trp	Ser	Val	Ala	Trp	Gly	Thr	Asn	Lys	Lys	Glu	Asn	Ser
		20						25					30		
Glu	Thr	Val	Val	Thr	Gly	Ser	Leu	Asp	Asp	Leu	Val	Lys	Val	Trp	Lys



35 40 45  
 Trp Arg Asp Glu Arg Leu Asp Leu Gln Trp Ser Leu Glu Gly His Gln  
 50 55 60  
 Leu Gly Val Val Ser Val Asp Ile Ser His Thr Leu Pro Ile Ala Ala  
 65 70 75 80  
 Ser Ser Ser Leu Asp Ala His Ile Arg Leu Trp Asp Leu Glu Asn Gly  
 85 90 95  
 Lys Gln Met Lys Ser Ile Asp Ala Gly Pro Val Asp Ala Trp Thr Leu  
 100 105 110  
 Ala Phe Ser Pro Asp Ser Gln His Leu Ala Thr Gly Thr His Met Gly  
 115 120 125  
 Lys Val Asn Ile Phe Gly Val Glu Ser Gly Lys Lys Glu Tyr Ser Leu  
 130 135 140  
 Asp Thr Arg Gly Lys Phe Ile Leu Ser Ile Ala Tyr Ser Pro Asp Gly  
 145 150 155 160  
 Lys Tyr Leu Ala Ser Gly Ala Ile Asp Gly Ile Ile Asn Ile Phe Asp  
 165 170 175  
 Ile Ala Thr Gly Lys Leu Leu His Thr Leu Glu Gly His Ala Met Pro  
 180 185 190  
 Ile Arg Ser Leu Thr Phe Ser Pro Asp Ser Gln Leu Leu Val Thr Ala  
 195 200 205  
 Ser Asp Asp Gly Tyr Ile Lys Ile Tyr Asp Val Gln His Ala Asn Leu  
 210 215 220  
 Ala Gly Thr Leu Ser Gly His Ala Ser Trp Val Leu Asn Val Ala Phe  
 225 230 235 240  
 Cys Pro Asp Asp Thr His Phe Val Ser Ser Ser Ser Asp Lys Ser Val  
 245 250 255  
 Lys Val Trp Asp Val Gly Thr Arg Thr Cys Val His Thr Phe Phe Asp  
 260 265 270  
 His Gln Asp Gln Val Trp Gly Val Lys Tyr Asn Gly Asn Gly Ser Lys  
 275 280 285  
 Ile Val Ser Val Gly Asp Asp Gln Glu Ile His Ile Tyr Asp Cys Pro  
 290 295 300  
 Ile  
 305

&lt;210&gt; 4475

&lt;211&gt; 475

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4475

acgcgtgaac ccgtgagctt gggaggggat atcggtccaag cgaggtctct ctgatcccg  
 60  
 tgggtgtccag actccttctg gagttccaat cccaccctg gcacactgtc catctctggc  
 120  
 tgggtctgtcg tgaagctgga gagccgtgca aggcgacaga gccttctgtg tggcccgctc  
 180  
 tggcgctctg gggcaagggc tgacttgagc tgcttctgtc gctcatctgc tgtctgccag  
 240  
 ctgccctcag acctcctcct ggggtgcagcc cgttccact tgagagggag gtgggtcttca  
 300  
 ctttaggggg taggcacatc cctgtttgctg ccttgccccg acagcctcgt caatgcccg  
 360

ccacttctga gggctggagg gacaggaact tcctttcttc cccctttctg tctcctcgcg  
420  
tgggtacaaa agcacgtctg tagtccatgt gtgtgaagag aggacgcatt ctaga  
475

<210> 4476  
<211> 106  
<212> PRT  
<213> Homo sapiens

<400> 4476  
Met Cys Leu Pro Pro Lys Val Lys Thr Thr Ser Leu Ser Ser Gly Asn  
1 5 10 15  
Gly Leu His Pro Gly Gly Gly Leu Arg Ala Ala Gly Arg Gln Gln Met  
20 25 30  
Ser Arg Arg Ser Ser Ser Ser Gln Pro Leu Pro Gln Ser Ala Arg Thr  
35 40 45  
Gly His Thr Glu Gly Ser Val Ala Leu His Gly Ser Pro Ala Ser Arg  
50 55 60  
Gln Thr Ser Gln Arg Trp Thr Val Cys Gln Gly Trp Asp Trp Asn Ser  
65 70 75 80  
Arg Arg Ser Leu Asp Thr Ser Gly Ile Arg Glu Thr Ser Leu Gly Arg  
85 90 95  
Tyr Pro Leu Pro Ser Ser Arg Val His Ala  
100 105

<210> 4477  
<211> 1153  
<212> DNA  
<213> Homo sapiens

<400> 4477  
ctcttggcct ggcctcctgc agtgccacgc tccgtgtatt tgacaagctg agttggacac  
60  
tccatgtggg agagtgtcag tttgtcaaat accccaagtg cggcacatgc ttaccagctc  
120  
tagggcaggg cagatgggat atgacgaatg gactgccagc tggatacaag gatgctcacc  
180  
aagcaccaag ttctcacaag ttattttatg tgactttgca ggaactgagg cattatatct  
240  
gaggacacca ggggaaaagt gtggcatctc agggaaatac agccctgggc tgtgtctaca  
300  
cacaccatga gagtgtgat gggggcgcaa tagtcttgaa aatgtataaa gtgtccagga  
360  
atggaagtgc tctttgattc attattattt tcttccttca tattcccttc ccagagtctc  
420  
ctatctagga catcagcatt ctcacacaag cctaattggct tatctgagta agcagggcct  
480  
agaaattcac tttcttgata ctcagtcttg ccttctaaac actccttgat cttgcctacc  
540  
tctccccttt tccacatgct ttttctgta ggaacacttt ctccatttat tctgcctat  
600  
ccaattcttc cctatatttc ctggaccagc taaagtccag tgtttccaga gacttttgaa  
660

agtcaactta cactttttcc ttcttcattc acaaagctct tcttccttgg gccctgggat  
 720  
 gtatgccttt ctctctact gtctaatagc acctcgtaaa ttgtcaatga acttttctaa  
 780  
 ggggtattct tgaattccca actagattgt gagcttctgg aagacaaggc tatgtctttg  
 840  
 attgttgtct cccctaccac agcccagtac tttagttaca gaaaataata aatatttact  
 900  
 gattgattga ctttctctt gtccactagc tttaggtttg ggggccaaat tctaccctgg  
 960  
 attttgaaaa attcaaactg tgaacaccac aatgttatag agcatatgag gtagtagcca  
 1020  
 gcatgaagga tgttttcttc ctgagaaaca gtgtcaaggg ctggaggaag agggcaaaat  
 1080  
 agcagactca gagggcaaat aaattttggg attacttggg cacacaaggt tatacaggtg  
 1140  
 ttttcttgta gga  
 1153

&lt;210&gt; 4478

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4478

Met	Trp	Lys	Arg	Gly	Glu	Val	Gly	Lys	Ile	Lys	Glu	Cys	Leu	Glu	Gly
1				5				10					15		
Lys	Thr	Glu	Tyr	Gln	Glu	Ser	Glu	Phe	Leu	Ser	Pro	Ala	Tyr	Ser	Asp
			20					25					30		
Lys	Pro	Leu	Gly	Leu	Cys	Glu	Asn	Ala	Asp	Val	Leu	Asp	Arg	Arg	Leu
		35						40					45		
Trp	Glu	Gly	Asn	Met	Lys	Glu	Glu	Asn	Asn	Asn	Glu	Ser	Lys	Ser	Thr
		50					55					60			
Ser	Ile	Pro	Gly	His	Phe	Ile	His	Phe	Gln	Asp	Tyr	Cys	Ala	Pro	Ile
65					70					75				80	
Ser	Thr	Leu	Met	Val	Cys	Val	Asp	Thr	Ala	Gln	Gly	Cys	Ile	Ser	Leu
			85						90					95	
Arg	Cys	His	Thr	Phe	Pro	Leu	Val	Ser	Ser	Asp	Ile	Met	Pro	Gln	Phe
			100					105						110	
Leu	Gln	Ser	His	Ile	Lys										
			115												

&lt;210&gt; 4479

&lt;211&gt; 2158

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4479

nngcggcggc ctgcggcggg ttcggtgggc ccaatcccgg ggcggtgcgg ctgtttcggg  
 60  
 cgcgggcccc gcttttccgc accctgctcc ggccctcgact acggcgagcc tgagcgcggc  
 120  
 ggcggccccc gcgcagcaca gggagagatg agcagcacca gcagtaagag ggctccgacc  
 180

acggcaaccc agaggctgaa gcaggactac cttcgcattha agaaagaccc ggtgccttac  
240  
atctgtgccg agccccctccc ttccgaatatt ctcgagtggc actatgtcgt ccgaggccca  
300  
gagatgaccc cttatgaagg tggctattac catggaaaac taatttttcc cagagaattt  
360  
cctttcaaac ctcccagtat ctatatgac actcccaacg ggagggttaa gtgcaacacc  
420  
aggctgtgtc tttctatcac ggatttccac ccggacacgt ggaacccggc ctggtctgtc  
480  
tccaccatcc tgactgggct cctgagcttc atggtggaga agggcccccac cctgggcagt  
540  
atagagacgt cggacttcac gaaaagacaa ctggcagtgc agagttagc atttaatttg  
600  
aaagataaag tcttttgtga attatttctt gaagtcgtgg aggagattaa acaaaaacag  
660  
aaagcacaag acgaactcag tagcagaccc cagactctcc ccttgccaga cgtgggtcca  
720  
gacggggaga cgcacctcgt ccagaacggg attcagctgc tcaacgggca tgcgccggg  
780  
gccgtcccaa acctcgcagg gctccagcag gccaacggc accacggact cctgggtggc  
840  
gccctggcga acttggttgt gatagttggg ttgcagcct ttgcttacac ggtcaagtac  
900  
gtgctgagga gcacgcgcga ggagtgaggc ccaggcgccg agacccaagg cgccactgag  
960  
ggcaccgcgc accagagcgt gacctcggca ggctggacac actgcccagc acaggcagac  
1020  
ccaccaggct cctaggttta gcttttaaaa acctgaaagg ggaagcaaaa accaaaatgt  
1080  
gtgactgggc tttggaggag actggagcct cagccctgtc ctggccacgg gccgctggg  
1140  
ctggtgtggg tgggccttgt gtgctggatt ttagcttat cttccgtgtt gtctttggac  
1200  
ctgttttagt aaaccggtt ttcatcttat tagatgtggt cacttagaaa tgcaaaactg  
1260  
ctgccgaccg cgggctgtc ctgcgttctt ggagctcctg gcgcgtttct cggagctccc  
1320  
ggctcctcag cgggtgggaa cctcggggcc cagggtgga gctggcgctc gcgggtgctg  
1380  
gtctggcctg gccgtgtggt gatgaggctt agcggggcca gtgacggccg tggctcagga  
1440  
tccataagtc ggggttttgt ctcagcattt acaaagtgt ttacagtcag aatgaaacac  
1500  
attccttcta gaaagtgtt gggggttttt gctgccctgg aagccaggag cctgctcact  
1560  
ccaaccacaa gtcgcccttg actgcggcgg ccgcgagcgg ggcgggggct gccggtgcc  
1620  
tccgcaggcc gggcctcctg ggcgcctc ggtgctgcag gctggggggc cttgggtacc  
1680  
tgagagcct tttctctgaa ttccttatgt ccggtgggccc agaagcccg cctcctatgc  
1740  
tggtggaagg cggaggaccg gagtccctgc agaaggcccc gtgcactcgg gggcctccct  
1800

cacatcccgt gccccctgcg ctggccttca cagtaggtaa tggctccggc ccgggtgttc  
 1860  
 gctgtccacg gaacatggca gaggggcacc ccggcccggg aagacgccag agccagcagg  
 1920  
 ggctgtttcg ggccgcgtgg ctccccgggt ctcggccgtc tccctcttc tgcgtctgtt  
 1980  
 ccgtgacttc gcctgggtgg gatgtaccgc aggtgcatcg cgctcagggtg gggcacggcc  
 2040  
 gccggcaaga aaccaccct gtccggaggc gggcgtgaga caagcccagc ccgcacgcgc  
 2100  
 tcatttttct tcgttttttg atcagtttat tcagaattgc tctataattt accaattg  
 2158

<210> 4480

<211> 308

<212> PRT

<213> Homo sapiens

<400> 4480

Xaa	Arg	Arg	Pro	Ala	Ala	Gly	Ser	Val	Gly	Pro	Ile	Pro	Gly	Arg	Cys
1				5					10					15	
Gly	Cys	Phe	Gly	Arg	Gly	Pro	Arg	Phe	Ser	Ala	Pro	Cys	Ser	Gly	Leu
		20						25					30		
Asp	Tyr	Gly	Glu	Pro	Glu	Arg	Gly	Gly	Gly	Pro	Arg	Ala	Ala	Gln	Gly
		35					40					45			
Glu	Met	Ser	Ser	Thr	Ser	Ser	Lys	Arg	Ala	Pro	Thr	Thr	Ala	Thr	Gln
	50					55					60				
Arg	Leu	Lys	Gln	Asp	Tyr	Leu	Arg	Ile	Lys	Lys	Asp	Pro	Val	Pro	Tyr
65				70					75					80	
Ile	Cys	Ala	Glu	Pro	Leu	Pro	Ser	Asn	Ile	Leu	Glu	Trp	His	Tyr	Val
			85					90					95		
Val	Arg	Gly	Pro	Glu	Met	Thr	Pro	Tyr	Glu	Gly	Gly	Tyr	Tyr	His	Gly
		100						105					110		
Lys	Leu	Ile	Phe	Pro	Arg	Glu	Phe	Pro	Phe	Lys	Pro	Pro	Ser	Ile	Tyr
		115				120						125			
Met	Ile	Thr	Pro	Asn	Gly	Arg	Phe	Lys	Cys	Asn	Thr	Arg	Leu	Cys	Leu
	130				135						140				
Ser	Ile	Thr	Asp	Phe	His	Pro	Asp	Thr	Trp	Asn	Pro	Ala	Trp	Ser	Val
145				150						155				160	
Ser	Thr	Ile	Leu	Thr	Gly	Leu	Leu	Ser	Phe	Met	Val	Glu	Lys	Gly	Pro
		165						170					175		
Thr	Leu	Gly	Ser	Ile	Glu	Thr	Ser	Asp	Phe	Thr	Lys	Arg	Gln	Leu	Ala
		180					185					190			
Val	Gln	Ser	Leu	Ala	Phe	Asn	Leu	Lys	Asp	Lys	Val	Phe	Cys	Glu	Leu
	195					200					205				
Phe	Pro	Glu	Val	Val	Glu	Glu	Ile	Lys	Gln	Lys	Gln	Lys	Ala	Gln	Asp
	210				215						220				
Glu	Leu	Ser	Ser	Arg	Pro	Gln	Thr	Leu	Pro	Leu	Pro	Asp	Val	Val	Pro
225				230					235					240	
Asp	Gly	Glu	Thr	His	Leu	Val	Gln	Asn	Gly	Ile	Gln	Leu	Leu	Asn	Gly
		245						250				255			
His	Ala	Pro	Gly	Ala	Val	Pro	Asn	Leu	Ala	Gly	Leu	Gln	Gln	Ala	Asn
		260					265					270			
Arg	His	His	Gly	Leu	Leu	Gly	Gly	Ala	Leu	Ala	Asn	Leu	Phe	Val	Ile

275                      280                      285  
 Val Gly Phe Ala Ala Phe Ala Tyr Thr Val Lys Tyr Val Leu Arg Ser  
 290                      295                      300  
 Ile Ala Gln Glu  
 305

<210> 4481  
 <211> 320  
 <212> DNA  
 <213> Homo sapiens

<400> 4481  
 ggcacccctg tggggatggg ctgtgcctgg aggctggggg gctgcatctg gacagcctct  
 60  
 ggggtggggcc tcggaacctc ctgctgtgca gccagaaaac aggactcggc ctgtccaccc  
 120  
 acgtgggggag gggaccccg gctggggcttc gtaggggctt caaggacccc tgacttctgg  
 180  
 ggtgtgcctg acagcagggg aggccccaga gctggccttg gccatgtcca gtccctaatt  
 240  
 gacctttgtc ccttccttcc cctgcctctc tgtgcgtcgc tggactcgcc acgggagttc  
 300  
 tcacgaatgg gcacccaatt  
 320

<210> 4482  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 4482  
 Met Gly Cys Ala Trp Arg Leu Gly Gly Cys Ile Trp Thr Ala Ser Gly  
 1                      5                      10                      15  
 Trp Gly Leu Gly Thr Ser Cys Cys Ala Ala Arg Lys Gln Asp Ser Ala  
 20                      25                      30  
 Cys Pro Pro Thr Trp Gly Gly Asp Pro Gly Leu Gly Phe Val Gly Ala  
 35                      40                      45  
 Ser Arg Thr Pro Asp Phe Trp Gly Val Pro Asp Ser Arg Gly Gly Pro  
 50                      55                      60  
 Arg Ala Gly Leu Gly His Val Gln Ser Leu Ile Asp Leu Cys Pro Phe  
 65                      70                      75                      80  
 Leu Pro Leu Pro Leu Cys Ala Ser Leu Asp Ser Pro Arg Glu Phe Ser  
 85                      90                      95  
 Arg Met Gly Thr Gln  
 100

<210> 4483  
 <211> 1852  
 <212> DNA  
 <213> Homo sapiens

<400> 4483  
 nnggttgagg cgtgccggga gctgagttat agctgtgact tctgccctgc caggccgcac  
 60

acaagctggc tgacccgggt tgtaaaaatg gaatttcaag cagtagtgat ggcagtaggt  
120  
ggaggatctc ggatgacaga cctaacttcc agcattccca aacctctgct tccagttggg  
180  
aacaacctt taatttggtta cccattgaac ctgcttgagc gtgttggtt tgaagaagtc  
240  
attgtggtta caaccagga tgttcaaaag gctctatgtg cagaattcaa gatgaaaatg  
300  
aagccagata ttgtgtgtat tcctgatgac gctgacatgg gaactgcaga ttctttgcgc  
360  
tacatatatc caaaacttaa gacagatgtg ctggtgctga gctgtgatct gataacagac  
420  
gttgccctac atgaggttgt ggacctgttt agagcttatg atgcatcact tgctatgttg  
480  
atgagaaaag gccaagatag catagaacct gttcccggtc aaaaggggaa aaaaaagca  
540  
gtggagcagc gtgacttcat tggagtggac agcacaggaa agaggctgct cttcatggct  
600  
aatgaagcag acttgatga agagctggtc attaagggt ccatcctaca gaagcatcct  
660  
agaatacgtt tccacacggg tcttgtggat gccacctct actgtttgaa aaaatacatc  
720  
gtggatttcc taatggaaaa tgggtcaata acttctatcc ggagtgaact gattccatat  
780  
ttagtgagaa aacagttttc ctcagcttcc tcacaacagg gacaagaaga aaaagaggag  
840  
gatctaaaga aaaaggagct gaagtcctta gatattctaca gttttataaa agaagccaat  
900  
aactgaacc tggctcccta tgatgcctgc tggaaatgcct gtcgaggaga cagggtggaa  
960  
gacttgcca gatcacaggt gcgctgctat gtccacatca tgaaagaggg gctctgctct  
1020  
cgagtgaagc cactgggact ctacatggaa gcaaacagac aggtgccccaa attgctgtct  
1080  
gctctctgtc cagaagaacc accagtccat tcgtcagccc agattgtcag caaacacctg  
1140  
gttgagttg acagcctcat tgggccagag acacagattg gagagaagtc atccattaag  
1200  
cgctcagtca ttggctcatc ctgtctcata aaagatagag tgactattac caattgcctt  
1260  
ctcatgaact cagtcactgt ggaggaagga agcaatatcc aaggcagtgt catctgcaac  
1320  
aatgctgtga tcgagaaggg tgcagacatc aaggactgct tgattggaag tggccagagg  
1380  
attgaagcca aagctaaacg agtgaatgag gtgatcgtgg ggaatgacca gctcatggag  
1440  
atctgagttc tgagcaagtc agactccttc cttttggcct ccaaagccac agatgttggc  
1500  
cgccccacct gtttaactct gtatttattt cccaataaag aagggttcc aaaggcatgc  
1560  
tggagacttg tggagcagtc caaagctcca tgtcaggtgg gctccaggtg tacacagtgt  
1620  
atgttcatgt gtcatgtggt aaagatcatc tggagcaagt gtgtgggaca ggacagatac  
1680

agtggcctaa ctcttgtgtg ccaagatgta tcggtggggc agcagctgtc caatgtaaag  
 1740  
 ctcttaggaa ggctactttc tgactggctg acccaacca gtcctgaaag tatccctcac  
 1800  
 ctaaaaggac ctgggagtac ttcagtcctt taccctaatac agcctttcta ga  
 1852

<210> 4484

<211> 452

<212> PRT

<213> Homo sapiens

<400> 4484

Met	Glu	Phe	Gln	Ala	Val	Val	Met	Ala	Val	Gly	Gly	Gly	Ser	Arg	Met
1			5						10					15	
Thr	Asp	Leu	Thr	Ser	Ser	Ile	Pro	Lys	Pro	Leu	Leu	Pro	Val	Gly	Asn
		20						25					30		
Lys	Pro	Leu	Ile	Trp	Tyr	Pro	Leu	Asn	Leu	Leu	Glu	Arg	Val	Gly	Phe
		35					40					45			
Glu	Glu	Val	Ile	Val	Val	Thr	Thr	Arg	Asp	Val	Gln	Lys	Ala	Leu	Cys
	50					55					60				
Ala	Glu	Phe	Lys	Met	Lys	Met	Lys	Pro	Asp	Ile	Val	Cys	Ile	Pro	Asp
65					70					75				80	
Asp	Ala	Asp	Met	Gly	Thr	Ala	Asp	Ser	Leu	Arg	Tyr	Ile	Tyr	Pro	Lys
			85						90					95	
Leu	Lys	Thr	Asp	Val	Leu	Val	Leu	Ser	Cys	Asp	Leu	Ile	Thr	Asp	Val
			100					105					110		
Ala	Leu	His	Glu	Val	Val	Asp	Leu	Phe	Arg	Ala	Tyr	Asp	Ala	Ser	Leu
	115						120					125			
Ala	Met	Leu	Met	Arg	Lys	Gly	Gln	Asp	Ser	Ile	Glu	Pro	Val	Pro	Gly
	130					135					140				
Gln	Lys	Gly	Lys	Lys	Lys	Ala	Val	Glu	Gln	Arg	Asp	Phe	Ile	Gly	Val
145					150					155				160	
Asp	Ser	Thr	Gly	Lys	Arg	Leu	Leu	Phe	Met	Ala	Asn	Glu	Ala	Asp	Leu
			165						170					175	
Asp	Glu	Glu	Leu	Val	Ile	Lys	Gly	Ser	Ile	Leu	Gln	Lys	His	Pro	Arg
			180					185					190		
Ile	Arg	Phe	His	Thr	Gly	Leu	Val	Asp	Ala	His	Leu	Tyr	Cys	Leu	Lys
	195						200					205			
Lys	Tyr	Ile	Val	Asp	Phe	Leu	Met	Glu	Asn	Gly	Ser	Ile	Thr	Ser	Ile
	210					215					220				
Arg	Ser	Glu	Leu	Ile	Pro	Tyr	Leu	Val	Arg	Lys	Gln	Phe	Ser	Ser	Ala
225					230					235				240	
Ser	Ser	Gln	Gln	Gly	Gln	Glu	Glu	Lys	Glu	Asp	Leu	Lys	Lys	Lys	
			245						250				255		
Glu	Leu	Lys	Ser	Leu	Asp	Ile	Tyr	Ser	Phe	Ile	Lys	Glu	Ala	Asn	Thr
		260						265					270		
Leu	Asn	Leu	Ala	Pro	Tyr	Asp	Ala	Cys	Trp	Asn	Ala	Cys	Arg	Gly	Asp
	275						280					285			
Arg	Trp	Glu	Asp	Leu	Ser	Arg	Ser	Gln	Val	Arg	Cys	Tyr	Val	His	Ile
	290					295					300				
Met	Lys	Glu	Gly	Leu	Cys	Ser	Arg	Val	Ser	Thr	Leu	Gly	Leu	Tyr	Met
305				310						315				320	
Glu	Ala	Asn	Arg	Gln	Val	Pro	Lys	Leu	Leu	Ser	Ala	Leu	Cys	Pro	Glu



325 330 335  
 Glu Pro Pro Val His Ser Ser Ala Gln Ile Val Ser Lys His Leu Val  
 340 345 350  
 Gly Val Asp Ser Leu Ile Gly Pro Glu Thr Gln Ile Gly Glu Lys Ser  
 355 360 365  
 Ser Ile Lys Arg Ser Val Ile Gly Ser Ser Cys Leu Ile Lys Asp Arg  
 370 375 380  
 Val Thr Ile Thr Asn Cys Leu Leu Met Asn Ser Val Thr Val Glu Glu  
 385 390 395 400  
 Gly Ser Asn Ile Gln Gly Ser Val Ile Cys Asn Asn Ala Val Ile Glu  
 405 410 415  
 Lys Gly Ala Asp Ile Lys Asp Cys Leu Ile Gly Ser Gly Gln Arg Ile  
 420 425 430  
 Glu Ala Lys Ala Lys Arg Val Asn Glu Val Ile Val Gly Asn Asp Gln  
 435 440 445  
 Leu Met Glu Ile  
 450

<210> 4485  
 <211> 513  
 <212> DNA  
 <213> Homo sapiens

<400> 4485  
 ggatccacgt cagcccgaca tcgctgcttt atagccatgt tcacgtgtca tatgcgtctc  
 60  
 aggggtaccca aaatcacagg gccaaactcac ggggctccta ccactctagc cagtcattggg  
 120  
 gtcaggaata cccaccctc atccaaaatg tgtactcccc caaccttttg tgttcagacc  
 180  
 cacaggcctt atagcgcctt gtgcgtgccc cagcatttcc ctgcctagtg gggctccagg  
 240  
 cgggcagggt gacctccttc ccaggcagt tccacacctg atccaaaag tcagttctaa  
 300  
 tgaagtggat tcattcaaact actggtggtt ctggttggtc cgggtaagtg agggcacaga  
 360  
 gaaaaccccc aaatgtagag tatgtgacac agcacaagc agtcccatgc caaactgatg  
 420  
 cagtggcatt ccaagtttag agttccaccg ctgagacca tccaggattc ttttaccat  
 480  
 tactgtcct actgtctcct atctatttca tga  
 513

<210> 4486  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 4486  
 Met Gly Ser Gly Ile Pro His Pro His Pro Lys Cys Val Leu Pro Gln  
 1 5 10 15  
 Pro Phe Val Phe Arg Pro Thr Gly Leu Ile Ala Pro Cys Ala Cys Pro  
 20 25 30  
 Ser Ile Ser Leu Pro Ser Gly Ala Pro Gly Gly Gln Gly Asp Leu Leu

```

      35              40              45
Pro Gln Ala Val Pro His Leu Ile Pro Lys Val Ser Ser Asn Glu Val
      50              55              60
Asp Ser Phe Lys Tyr Trp Trp Phe Trp Leu Ala Arg Val Ser Glu Gly
      65              70              75              80
Thr Glu Lys Thr Pro Lys Cys Arg Val Cys Asp Thr Ala Gln Ser Ser
      85              90              95
Pro Met Pro Asn
      100

```

<210> 4487  
 <211> 387  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4487
nnacgcgtaa agatactttt tcttttctgg attcccaatt ttaggtggca gtcgcaaccc
60
atactattcg gacagatggc acagaaaccg ctgcgcctct tggcttgtgg agatgttgaa
120
ggaaagtttg atattttatt caatagagtt caagcaattc agaagaaaag tggaaacttt
180
gatctgctgt tgtgtgtagg aaatttcttt ggctccaccc aagatgctga atgggaggag
240
tataagactg gcatcaagaa agctcctatt cagacatatg tgcttggtgc taataaccag
300
gaaacagtaa aatatttcca ggatgctgat ggatgtgaat tagctgaaaa cattacttat
360
ctgggtcgta aaggtatctt cactgga
387

```

<210> 4488  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4488
Xaa Arg Val Lys Ile Leu Phe Leu Phe Trp Ile Pro Asn Phe Arg Trp
1          5          10          15
Gln Ser Gln Pro Ile Leu Phe Gly Gln Met Ala Gln Lys Pro Leu Arg
      20          25          30
Leu Leu Ala Cys Gly Asp Val Glu Gly Lys Phe Asp Ile Leu Phe Asn
      35          40          45
Arg Val Gln Ala Ile Gln Lys Lys Ser Gly Asn Phe Asp Leu Leu Leu
      50          55          60
Cys Val Gly Asn Phe Phe Gly Ser Thr Gln Asp Ala Glu Trp Glu Glu
      65          70          75          80
Tyr Lys Thr Gly Ile Lys Lys Ala Pro Ile Gln Thr Tyr Val Leu Gly
      85          90          95
Ala Asn Asn Gln Glu Thr Val Lys Tyr Phe Gln Asp Ala Asp Gly Cys
      100          105          110
Glu Leu Ala Glu Asn Ile Thr Tyr Leu Gly Arg Lys Gly Ile Phe Thr
      115          120          125
Gly

```

<210> 4489  
<211> 2390  
<212> DNA  
<213> Homo sapiens

<400> 4489  
ngaattcaga ttgtgggggtt gacagaactt cagagtcttg cagttgggcc ccgagttttc  
60  
cagtacggag tcaaagttgt acttcaggct atgtacttgc tgtggaagtt gatgtggagg  
120  
gagccagggtg cctatatctt tctccagaac cccccaggtc tgcctagcat tgctgtctgc  
180  
tgggttcgtgg gctgcctttg tggaagcaag ctctgctattg actggcacia ctatggctac  
240  
tccatcatgg gtctgggtgca tggccccaac catcccctcg ttctgctggc caagtggtag  
300  
gagaagttct ttggggcgct gtcccacctg aacctgtgtg ttaccaatgc tatgagagaa  
360  
gacctggcgg ataactggca catcagggtg gtgaccgtct acgacaagcc cgcattcttc  
420  
tttaaagaga cacctctgga cctgcagcac cggtctcttca tgaagctggg cagcatgcac  
480  
tctccgttca gggcccgctc agaacctgag gaccagtcga cggagcggtc ggccttcacg  
540  
gagcgggatg ctgggagcgg gctgggtgacg cgtctccgtg agcggccagc cctgctggtc  
600  
agcagcacga gctggacaga ggacgaagac ttctccatcc tgctggcagc tttagaaaag  
660  
ttgaacaac tgactcttga tggacacaac cttccttctc tcgtctgtgt gataacaggc  
720  
aaagggcctc tgagggagta ttatagccgc ctcattccacc agaagcactt ccagcacatc  
780  
caggtctgca cccctggct ggaggccgag gactacccc tgcttctagg gtcggcggac  
840  
ctgggtgtct gtctgcacac gtcctccagt ggctgggacc tgcccatgaa ggtggtggac  
900  
atgttcgggt gctgtttgcc tgtgtgtgct gtgaacttca agtggtttaca tgagctgggtg  
960  
aaacatgaag aaaatggcct ggtctttgag gactcagagg aactggcagc tcagctgcag  
1020  
atgcttttct caaactttcc tgatcctgcg ggcaagctaa accagttccg gaagaacctg  
1080  
cgggagtcgc agcagctccg atgggatgag agctgggtgc agactgtgct ccctttgggt  
1140  
atggacacat aactcctggg ccagaggcta taaaacccca ggaccctgc tgctcttccc  
1200  
gcagcttctt cttggagtct cagggcaaac cctttcgagc agcacctccc agtggccaga  
1260  
agctgaaatg acagcagtgg tactgcctgg taaaagaatt ggttctgtga cccgggaagc  
1320  
tttggttggc cttgatttct tctctggagg cttggaaacg cttcctctct tcttctgttc  
1380

ttcacgcccc atgccccctgc tagcgtatta ctgttctgtg acttccctgt gacctctgca  
 1440  
 gaactcctca tcctgcgttt ggtctccagg tgtccctttt ctgccgtgtt cctaacattt  
 1500  
 tgattcctgt cttgaaaaaa gcacctgctg caccgtaagc ccagggatgt ggcagctgca  
 1560  
 gtgggcttgg ctttgtgagg aactgagtgt gtccacgttg ggggaacatc atacttgata  
 1620  
 cacacgtttt tatttgcaca aagaaaatgc tatttttggg gccagaattt tcatgtctga  
 1680  
 tttatggtga ttttcttaag aaccagaact gctggcagaa agggggcacc cacacgctta  
 1740  
 gatagccgat gtcttattag agggcagttt gtggttcttg atttggaat taacattctc  
 1800  
 caaacattcc agtccaatga aagttttatc cgctttccca tataaaaatt cttcccatga  
 1860  
 gagtgatttg attctcacia tcccgttggg gtcgtgtgtg agtcctacag tgtgaggttc  
 1920  
 agcattgcca tctccaagtg ctcttcgtag ggaaacagtt tctggtcatg atgagcttcc  
 1980  
 gcttcccata tgatcccagc ccggcctagc tcgggtgtga acagctggca cgtctctggg  
 2040  
 ttgtggacgg taaaggccac gtagacctca ggagcccgtt ggtgctccca gcaggcagcc  
 2100  
 agcctccgca ggacctgac cagcgacacg atggcttctg ggcaatacag cacgtcttct  
 2160  
 gcaaaatata ccgcagcagc tcagaatctg atgagtctct taactttgct tctaagctca  
 2220  
 gtgtggacgg gggagagaga aatctcaagg gcgcattcac aggaacatta naacacgcaa  
 2280  
 tagaatgtgt tggcaaagct ctatgtgatc nctccctggg gacgtggagc cagttggaag  
 2340  
 tggaagccac agcggctgaa agcctgacct tcagatgtcg cagggtgcac  
 2390

&lt;210&gt; 4490

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4490

Xaa Ile Gln Ile Val Gly Leu Thr Glu Leu Gln Ser Leu Ala Val Gly  
 1 5 10 15  
 Pro Arg Val Phe Gln Tyr Gly Val Lys Val Val Leu Gln Ala Met Tyr  
 20 25 30  
 Leu Leu Trp Lys Leu Met Trp Arg Glu Pro Gly Ala Tyr Ile Phe Leu  
 35 40 45  
 Gln Asn Pro Pro Gly Leu Pro Ser Ile Ala Val Cys Trp Phe Val Gly  
 50 55 60  
 Cys Leu Cys Gly Ser Lys Leu Val Ile Asp Trp His Asn Tyr Gly Tyr  
 65 70 75 80  
 Ser Ile Met Gly Leu Val His Gly Pro Asn His Pro Leu Val Leu Leu  
 85 90 95  
 Ala Lys Trp Tyr Glu Lys Phe Phe Gly Arg Leu Ser His Leu Asn Leu

	100		105		110
Cys Val Thr	Asn Ala Met Arg	Glu Asp Leu Ala Asp	Asn Trp His Ile		
	115	120	125		
Arg Ala Val Thr Val Tyr	Asp Lys Pro Ala Ser Phe	Phe Lys Glu Thr			
	130	135	140		
Pro Leu Asp Leu Gln His Arg	Leu Phe Met Lys Leu Gly	Ser Met His			
	145	150	155	160	
Ser Pro Phe Arg Ala Arg Ser	Glu Pro Glu Asp Pro Val Thr	Glu Arg			
	165	170	175		
Ser Ala Phe Thr Glu Arg Asp	Ala Gly Ser Gly Leu Val Thr	Arg Leu			
	180	185	190		
Arg Glu Arg Pro Ala Leu Leu	Val Ser Ser Thr Ser Trp Thr	Glu Asp			
	195	200	205		
Glu Asp Phe Ser Ile Leu Leu	Ala Ala Leu Glu Lys Phe	Glu Gln Leu			
	210	215	220		
Thr Leu Asp Gly His Asn Leu	Pro Ser Leu Val Cys Val Ile Thr	Gly			
	225	230	235	240	
Lys Gly Pro Leu Arg Glu Tyr Tyr	Ser Arg Leu Ile His Gln Lys His				
	245	250	255		
Phe Gln His Ile Gln Val Cys Thr	Pro Trp Leu Glu Ala Glu Asp Tyr				
	260	265	270		
Pro Leu Leu Leu Gly Ser Ala Asp	Leu Gly Val Cys Leu His Thr Ser				
	275	280	285		
Ser Ser Gly Leu Asp Leu Pro Met	Lys Val Val Asp Met Phe Gly Cys				
	290	295	300		
Cys Leu Pro Val Cys Ala Val Asn	Phe Lys Cys Leu His Glu Leu Val				
	305	310	315	320	
Lys His Glu Glu Asn Gly Leu Val	Phe Glu Asp Ser Glu Glu Leu Ala				
	325	330	335		
Ala Gln Leu Gln Met Leu Phe Ser	Asn Phe Pro Asp Pro Ala Gly Lys				
	340	345	350		
Leu Asn Gln Phe Arg Lys Asn Leu	Arg Glu Ser Gln Gln Leu Arg Trp				
	355	360	365		
Asp Glu Ser Trp Val Gln Thr Val	Leu Pro Leu Val Met Asp Thr				
	370	375	380		

&lt;210&gt; 4491

&lt;211&gt; 6712

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4491

```

ngtttttttt tttttttttt ttaaaagcag taatatcttt tatttaaaaa gttcatctta
60
gaagaaaatt caaaagggat acaataaact tttccatata ccaaaaactt gtgcccaaga
120
caaaaagagg gaagaattta agtttagggg tacatatgca ggtttggttac acaggtaaac
180
ttttgtgtca tggggattta ttatacagat tatttcatca cccagggtatt aagcctagta
240
cccattagtt atttttcctg ttcctctccc tctcccacc ctccaccctt tgataggccc
300
cagtacatgt tgttccgaga gggaaaaatt taaaaaacat atgcagttaa ataaccataa
360

```

tgaatagttt tcctagaaaa aaaaatattg ccttttaaaa aaaatcaaat atgtactact  
420  
ttaaagggtg caaccatctc atattgaaaa ttaaagatgt tccttcctaa aattttacat  
480  
taatcaatta aatgtttatg ttagaaaaatt taacattaat agaataaaaa ctgttttaga  
540  
aacatcacca agaacactgt tgtggcacat gtttgcaaat attgcaattc ctgcaacatc  
600  
atatgtattg aaaagtctgg aaagcccatg tggctgagag ttaaatttat atactgaagt  
660  
aaaacctggg aatattcatc atgccaatta tagttcaatt attttatcag acagaactct  
720  
gagagcaaat taaaatttta aaattttacc tattccatag actgaatttt tctaggtact  
780  
attttaatac aaattattac tatagcaaaa ttctgaacac tttttggtg ttagtatatt  
840  
ttaaagat taatatttct ttttacctct taaatataaa gaaagcttca attcagcctt  
900  
ctattcatcc agatacattg catgtatatg tgtaaaaaaa acgactaggc aattagattt  
960  
acttatctta ctttattcat aaataagaat tttcctaagt gcagtgaggg gtaggagaca  
1020  
tggaacctt tctcatactt ataggtgata ttaactgaa atatataact gccttttggg  
1080  
aacagtattt tttctgtttt ctatgaatta ccataagca tagcaaaacc aagataaatt  
1140  
taaattta atgtttaaag agcactgttc aagataaact ttcattgata tcacagtata  
1200  
gcattataca atgattttac gtaaaaatat ttagaagcac agtgatgatt ttaagaagcc  
1260  
ataaacatt ttaatgaaat ataagaaagt catgaatatt tatgtggata tgtatgttgc  
1320  
aaatttaagg taaatcaaca taggataaac acagaagatt acatacaaac cctacatatt  
1380  
ttatttctgg tgaaacatat aaacactttc ctactatagt acaaaatcaa ttagttcctc  
1440  
taccagcact aaagacttgt catctaaata tattcatttt aggggagaaa aaaatgcttc  
1500  
acatttttct aaaatgaaga ctgcaataaa ttagtgcttt aaaaaatata tatatatagg  
1560  
atatagatcc taagaaaata aaactaaagt ataaaaaatg aatagcattt cttttcctgc  
1620  
catcatatcc tttcttatct cattcctaca tagaatgaat gataagctaa attatttaga  
1680  
catgtatggt gactgaaagc aatgtcttca aggaaacagc ttcttgttta gcctcttact  
1740  
ctaccatact tagagtaaaa atcaaaggat attttagaaa tgtcttgtaa ctattgttgt  
1800  
agcaataatc tgtcttgtaa gaacaacaca ataaaaatga cctagagaat tccatgaaca  
1860  
atgatacttg gattacaaga gagctaaaaa tcagaggcta ttctgtgtg caaactattt  
1920  
ttaccagtct aaatactata tggtttacca ctgaacaccc aagtttgact gaagtgaaca  
1980

tttgtacta tcagtaaaaa actcctctc ttacaggaat ggcagaaata tagacattta  
2040  
gtcatcaaaa atggcacaat gtacatcaca caaatgatta tattatgggt cataaggaaa  
2100  
acagccacaa ttttgatcag agaaatgtta atacatatga agccttaaaa cagcaacatg  
2160  
gcggggaagg agagggaggg gggaaacctaa tgcatttgaa ttaaaggaaa caggcaatat  
2220  
ttggtcgatg taaacaatgc tatttaacga gtgctttatc tactttactg aaatacggaa  
2280  
atacttatgt acacgattta aatgtgcaca agacttgggc ttttttcttc tagactatgt  
2340  
acatcattca gcacacaatt caaaaagttc tgggtgtatc aacacactcc cagtaagatt  
2400  
atgttacact gaaacatata atattaaact ttcaagagac tgcttttgat gctaaggagt  
2460  
aatctatttt tacaagaatg ctcaatgggt gtgatttcta gaatatcttt ttcaatatca  
2520  
ccaaaaataa gataaaattt attttaaaat tatgatttag aggtagagct gaaattattt  
2580  
atttaaatta taggaaagaa agacataaaa tcattgtgag agaataatgg tgaaaaacat  
2640  
tcttgccctaa gagtctccat cttctttggc tatagtgtgt gtttcaagtt gaaacagcat  
2700  
cactagtatt gctgccttcg aacattttgt ttctggaaaa aagcctttcc aaattcatat  
2760  
gtactgatca taatggcaca agcaggagca attttaatta agcgaggaat taggcctgaa  
2820  
aataatccgg aaaatccatt tttagcaaca atgttcttca ttataatcca ggttgacata  
2880  
tgcaaaggca tagaaatttt atgactttca tatgtccaaa gttgtgtctg cttttgtgtt  
2940  
tttactacat caaatggtaa agttgcaaca gcagcaaaaag aaccagacaa tgcccctgaa  
3000  
gtaaagttga tcataaatgt tggtcatat aaaccagatt tctcacataa ccacttcttt  
3060  
aaaatttcat agttatacca gtacattgct gagaaaggta catctctaag aacagtagga  
3120  
gcccagcccc tccaaaggga aatccaacca tcttcagata ctttcttgct gacaaatcga  
3180  
tgcagttcca cgtaagaaaa cttcttggac tgcatttgg ttctaataca ttctagtggg  
3240  
cttatcacag ttactgcacc aaatctggct acaattccag caacaattgg tatgcaggtt  
3300  
tcattttctc ctaacttaga tctcagaaga gcacttaatt gatcatagca ggtaaaataa  
3360  
ataactgtgg caggaaactgc catcactagg gtaggaggaa ggccactcca tagagattta  
3420  
atgccctcat ttcgaatgat tttaaaaaat gcatccaatg ttccctggaa atttctggc  
3480  
ttcttatacc atagtgtgtt gcctccctct tcacagacac atagatgac catgagtcca  
3540  
ttactatata caaaacattt tcctttgggg agtgggtgtt tttgggcttg gagtctaatt  
3600

ttaacaacat ccaggggtgt cactattact gatgtcagta tagctccagt acatgaggca  
3660  
agcatttggt gaagaggtgt cactttgata atctcttgtc cccttgcttc aggatccata  
3720  
tttttaacta attaaataaa aacctgggtt gagtctgttc ttcaactcta tgctccaata  
3780  
ttttattggt tgtaacatca gtagccaaaa acctggggca gaaggcagct gcagggcccg  
3840  
cagtcctggc aaacctagaa ggcgggaata accctggtga cgggcggggc cgggctcccg  
3900  
cgctaactgc atccactagg tttggtcaac acagagccgc gccaaactctc tgaggctgcg  
3960  
ccaagacctg aagcggcgga ccgagagccc gggctctgaga ctgagagagc aacggaatgg  
4020  
aggcggggta gaggcggaaa cacaacctgc agggccagag cgaggcgga gaaggacggc  
4080  
ggcgtgaggg ggcggggcg gcagcgcgag aaggcaggca cgagggcgga gcgcgagggc  
4140  
gggcacggcg cgtggcgtga gacggggcg ggcgcgcgta tcggcgccgc ggccgcgtga  
4200  
cgcgttttca aatcttcaac cgccgcagcc cactcgtttg tgctttgcgc cttcctctc  
4260  
cgcgccttgg agccggatcc ggccccgaa acccgacccg cagacgcggt acctctactg  
4320  
cgtagaggcc gtagctggcg gaaggagaga ggcggccgct ctgtcaacag gccgggggaa  
4380  
gccgtgcttt cgcggtgcc cggtgcgaca ctttctccgg acccagcatg taggtgccgg  
4440  
gcgactgcca tgaactccgg agccatgagg atccacagta aaggacattt ccagggtgga  
4500  
atccaagtca aaaatgaaaa aaacagacca tctctgaaat ctctgaaaac tgataacagg  
4560  
ccagaaaaat ccaaagttaa gccactttgg ggaaaagtat ttaccttga cttaccttct  
4620  
gtcaccatat ctgaaaaact tcaaaaggac attaaggatc tgggagggcg agttgaagaa  
4680  
tttctcagca aagatatcag ttatcttatt tcaataaga aggaagctaa atttgcacaa  
4740  
accttgggtc gaatttctcc tgtaccaagt ccagaatctg catatactgc agaaaccact  
4800  
tcacctcatc ccagccatga tggaagtta tttaagtcac cagacacagt gtgtttaagc  
4860  
agaggaaaat tattagttga aaaagctatc aaggaccatg attttattcc ttcaaatagt  
4920  
atattatcaa atgccttgct atggggagta aaaattcttc atattgatga cattagatac  
4980  
tacattgaac aaaagaaaa agagttgtat ttactcaaga aatcaagtac ttcagtaaga  
5040  
gatgggggca aaagagttgg tagtggtgca caaaaaacaa gaacaggaag actcaaaaag  
5100  
ccttttgtaa aggtggaaga tatgagccaa ctttataggc cattttatct tcagctgacc  
5160  
aatatgcctt ttataaatta ttctattcag aagccctgca gtccatttga tgtagacaag  
5220



ccatctagta tgcaaaagca aactcagggt aaactaagaa tccaaacaga tggcgataag  
5280  
tatgggtgaa cctcaattca actccagttg aaagagaaga agaaaaaagg atattgtgaa  
5340  
tggtgcttgc agaaatatga agatctagaa actcaccttc taagttagca acacagaaac  
5400  
tttgacaga gtaaccagta tcaagttgtt gatgatattg tatctaagtt agtttttgac  
5460  
tttgtggaat atgaaaagga cacacctaaa aagaaaagaa taaaatacag tgttggtacc  
5520  
ctttctcttg tttctgcaag tgtcctgaaa aagactgaac aaaaggaaaa agtggaattg  
5580  
caacatattt ctcaaaaaga ttgccaggaa gatgatacaa cagtgaagga gcagaatttc  
5640  
ctgtataaag agaccaggga aactgaaaaa aagctcctgt ttatttcaga gcccattccc  
5700  
cacccttcaa atgaattgag agggcttaat gagaaaatga gtaataaatg ttccatgta  
5760  
agtacagctg aagatgacat aagacagaat ttacacagc tacctctaca taaaaacaaa  
5820  
caggaatgca ttcttgacat ttccgaacac acattaagtg aaaatgactt agaagaacta  
5880  
agggtagatc actataaatg taacatacag gcactgttac atgtttctga ttccagtaca  
5940  
gataatagtg gatctcaacc aaaacagaag tcagatactg tgctttttcc agcaaaggat  
6000  
ctcaaggaaa aggaccttca ttcaatattt actcatgatt ctggtctgat aacaataaac  
6060  
agttcacaag agcacctaac tggtcaggca aaggctccat tccatactcc tcttgaggaa  
6120  
cccaatgaat gtgacttcaa gaatatggat agtttacctt ctggtaaaat acatcgaaaa  
6180  
gtgaaaataa tattaggacg aaatagaaaa gaaaatctgg aaccaaatgc tgaatttgat  
6240  
aaaagaactg aatttattac acaagaagaa aacagaattt gtagttcacc ggtacagtct  
6300  
ttactagact tgtttcagac tagtgaagag aaatcagaat ttttgggttt cacaagctac  
6360  
acagaaaaga gtggtatatg caatgtttta gatatttggg aagaggaaaa ttcagataat  
6420  
ctgttaacag cgtttttctc gtccccctca acttctacat ttactggctt ttagaattta  
6480  
aaaaatgcat acttttcaga agtgataagg atcatattct tgaaattttt ataaatatgt  
6540  
atggaaattc ttaggatttt tttaccagct ttgtttacag acccaaattg aaatattaaa  
6600  
aataaatatt tgcaattttc tacagaattg aatacctgtt aaagaaaaat tacagaataa  
6660  
acttgtgact ggtcttgttt tacattaaaa aaaaaaaaaa aaaaaactcg ag  
6712

&lt;210&gt; 4492

&lt;211&gt; 674

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4492

Met Asn Ser Gly Ala Met Arg Ile His Ser Lys Gly His Phe Gln Gly  
 1 5 10 15  
 Gly Ile Gln Val Lys Asn Glu Lys Asn Arg Pro Ser Leu Lys Ser Leu  
 20 25 30  
 Lys Thr Asp Asn Arg Pro Glu Lys Ser Lys Cys Lys Pro Leu Trp Gly  
 35 40 45  
 Lys Val Phe Tyr Leu Asp Leu Pro Ser Val Thr Ile Ser Glu Lys Leu  
 50 55 60  
 Gln Lys Asp Ile Lys Asp Leu Gly Gly Arg Val Glu Glu Phe Leu Ser  
 65 70 75 80  
 Lys Asp Ile Ser Tyr Leu Ile Ser Asn Lys Lys Glu Ala Lys Phe Ala  
 85 90 95  
 Gln Thr Leu Gly Arg Ile Ser Pro Val Pro Ser Pro Glu Ser Ala Tyr  
 100 105 110  
 Thr Ala Glu Thr Thr Ser Pro His Pro Ser His Asp Gly Ser Ser Phe  
 115 120 125  
 Lys Ser Pro Asp Thr Val Cys Leu Ser Arg Gly Lys Leu Leu Val Glu  
 130 135 140  
 Lys Ala Ile Lys Asp His Asp Phe Ile Pro Ser Asn Ser Ile Leu Ser  
 145 150 155 160  
 Asn Ala Leu Ser Trp Gly Val Lys Ile Leu His Ile Asp Asp Ile Arg  
 165 170 175  
 Tyr Tyr Ile Glu Gln Lys Lys Lys Glu Leu Tyr Leu Leu Lys Lys Ser  
 180 185 190  
 Ser Thr Ser Val Arg Asp Gly Gly Lys Arg Val Gly Ser Gly Ala Gln  
 195 200 205  
 Lys Thr Arg Thr Gly Arg Leu Lys Lys Pro Phe Val Lys Val Glu Asp  
 210 215 220  
 Met Ser Gln Leu Tyr Arg Pro Phe Tyr Leu Gln Leu Thr Asn Met Pro  
 225 230 235 240  
 Phe Ile Asn Tyr Ser Ile Gln Lys Pro Cys Ser Pro Phe Asp Val Asp  
 245 250 255  
 Lys Pro Ser Ser Met Gln Lys Gln Thr Gln Val Lys Leu Arg Ile Gln  
 260 265 270  
 Thr Asp Gly Asp Lys Tyr Gly Gly Thr Ser Ile Gln Leu Gln Leu Lys  
 275 280 285  
 Glu Lys Lys Lys Lys Gly Tyr Cys Glu Cys Cys Leu Gln Lys Tyr Glu  
 290 295 300  
 Asp Leu Glu Thr His Leu Leu Ser Glu Gln His Arg Asn Phe Ala Gln  
 305 310 315 320  
 Ser Asn Gln Tyr Gln Val Val Asp Asp Ile Val Ser Lys Leu Val Phe  
 325 330 335  
 Asp Phe Val Glu Tyr Glu Lys Asp Thr Pro Lys Lys Lys Arg Ile Lys  
 340 345 350  
 Tyr Ser Val Gly Ser Leu Ser Pro Val Ser Ala Ser Val Leu Lys Lys  
 355 360 365  
 Thr Glu Gln Lys Glu Lys Val Glu Leu Gln His Ile Ser Gln Lys Asp  
 370 375 380  
 Cys Gln Glu Asp Asp Thr Val Lys Glu Gln Asn Phe Leu Tyr Lys  
 385 390 395 400  
 Glu Thr Gln Glu Thr Glu Lys Lys Leu Leu Phe Ile Ser Glu Pro Ile

405 410 415  
 Pro His Pro Ser Asn Glu Leu Arg Gly Leu Asn Glu Lys Met Ser Asn  
 420 425 430  
 Lys Cys Ser Met Leu Ser Thr Ala Glu Asp Asp Ile Arg Gln Asn Phe  
 435 440 445  
 Thr Gln Leu Pro Leu His Lys Asn Lys Gln Glu Cys Ile Leu Asp Ile  
 450 455 460  
 Ser Glu His Thr Leu Ser Glu Asn Asp Leu Glu Glu Leu Arg Val Asp  
 465 470 475 480  
 His Tyr Lys Cys Asn Ile Gln Ala Ser Val His Val Ser Asp Phe Ser  
 485 490 495  
 Thr Asp Asn Ser Gly Ser Gln Pro Lys Gln Lys Ser Asp Thr Val Leu  
 500 505 510  
 Phe Pro Ala Lys Asp Leu Lys Glu Lys Asp Leu His Ser Ile Phe Thr  
 515 520 525  
 His Asp Ser Gly Leu Ile Thr Ile Asn Ser Ser Gln Glu His Leu Thr  
 530 535 540  
 Val Gln Ala Lys Ala Pro Phe His Thr Pro Pro Glu Glu Pro Asn Glu  
 545 550 555 560  
 Cys Asp Phe Lys Asn Met Asp Ser Leu Pro Ser Gly Lys Ile His Arg  
 565 570 575  
 Lys Val Lys Ile Ile Leu Gly Arg Asn Arg Lys Glu Asn Leu Glu Pro  
 580 585 590  
 Asn Ala Glu Phe Asp Lys Arg Thr Glu Phe Ile Thr Gln Glu Glu Asn  
 595 600 605  
 Arg Ile Cys Ser Ser Pro Val Gln Ser Leu Leu Asp Leu Phe Gln Thr  
 610 615 620  
 Ser Glu Glu Lys Ser Glu Phe Leu Gly Phe Thr Ser Tyr Thr Glu Lys  
 625 630 635 640  
 Ser Gly Ile Cys Asn Val Leu Asp Ile Trp Glu Glu Glu Asn Ser Asp  
 645 650 655  
 Asn Leu Leu Thr Ala Phe Phe Ser Ser Pro Ser Thr Ser Thr Phe Thr  
 660 665 670  
 Gly Phe

&lt;210&gt; 4493

&lt;211&gt; 1829

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4493

nngtataaac tgtcaaattt tcaaataata ggtagggggc tttcactagg aaaatcatgt  
 60  
 gctcaaaaga ggaaatgact cgtagtcagg ttcaggagtt agtggagtat ttggactttg  
 120  
 gtactgctgt cttccaaggt agctctaagt tttgatgtgt gggcttctga gtttatattc  
 180  
 tgaaaggaaa tacacttctt ttgaacatcc cacttaggtt cttttccatt gtcaataagg  
 240  
 agcatcagcc agtgaatctg tttcagggtt ccattctgca gaactcctcc aaagcatgtg  
 300  
 ctagtggcaa gacagtgggt cttatgatgt tttcccttaa cttttccttg tatgttcttg  
 360

ggtaggttcct aagggaaagg gaagcacatg atcatgggaa tgatagccca gaacaaaaag  
420  
aaatcttggtc ttaccacagt gttttatagg agagattggg agaaatcatc ctgtttttctc  
480  
tgtgacctga tttcagaaga gactgatcca aaaattataa cggcagggaa cctagtgcac  
540  
ttggcactga gatttaaag caaccagaat tgcctcaag gccagccat aaaagcattg  
600  
tctctctcga cttctggta tcttggtaga gagcttttca ctgtgaggaa gtgtggaaaa  
660  
atagctctgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtaatctgtt aggttgggga  
720  
taggttttct gctagccaat attaaaagag acctgcaata aaaaaattac cctgnatctg  
780  
atagaaagca agtgtttttg tatgtgtggg tgaatgtgtg ttcattgccc tatatgtcta  
840  
cacacagatg acaaattata tttgaaatcg ttggaaaata aattcagatc aaaatgcctt  
900  
tcaggcccat tacctagaaa tctatcttaa aacctgggta tggtcctaag gtcatttctt  
960  
tgcttatgct aaattaatta caattatgaa tggaggatat tctactgtac ttttttaaaa  
1020  
agaaactatt tttgtgtttg aaagtgaac caacatccag atctatagca gagtccttat  
1080  
tcttctcata aatcttttta ctttggctac aaatagatga tggtagatt ctattatata  
1140  
ttttatataa aatccatcca aattaagttt tgggtaagtg tggtgtttta tctgaactat  
1200  
agtaacttaa tactctaaac aatagttcac tccatttggg cctttctcca cagatgtaat  
1260  
tatgttttca actcaggaac tatggcaagg aactttcccc agatcaaatt ctattaacgc  
1320  
tgagatacaa gtcattccatg cacagccact atcataccct ttattctcac tgaaaggcag  
1380  
aactcagaac ctgttatttt atgtctgtaa tcatgtactt tggcatcttt tggaggaaa  
1440  
gggcaggata actcactgga atgtacagta ttttgctagt gcatttcaag gaatggaatc  
1500  
ttctccagta tgaaattacc agatataaaa taatgtaatg atgctgagga tataagcttt  
1560  
tagaaggtaa tttgatggta tttctttctc gaatgaaaag ctgctgggtt accctcaacc  
1620  
ctattcatta gcattaccat gagtgaattt atatctaatt atttccactt gccctgttct  
1680  
cttcacacca aggaagctcc agatccagta tcttggttgg cctcaaaaca gaagcagctt  
1740  
cttttgtctc ccagcagtag tgagccactc agtctcttcc acaggaagtt tgggagccta  
1800  
cattccttga gtcagggagc ttaattaca  
1829

&lt;210&gt; 4494

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4494

```

Met Ile Met Gly Met Ile Ala Gln Asn Lys Lys Lys Ser Cys Leu Thr
 1           5           10           15
Thr Val Phe Tyr Arg Arg Asp Trp Glu Lys Ser Ser Cys Phe Leu Cys
          20           25           30
Asp Leu Ile Ser Glu Glu Thr Asp Pro Lys Ile Ile Thr Ala Gly Asn
          35           40           45
Leu Val His Leu Ala Leu Arg Phe Lys Cys Asn Gln Asn Cys Pro Gln
          50           55           60
Gly Pro Ala Ile Lys Ala Leu Ser Leu Ser Thr Phe Trp Tyr Leu Val
65           70           75           80
Arg Glu Leu Phe Thr Val Arg Lys Cys Gly Lys Ile Ala Leu Cys Val
          85           90           95
Cys Val Cys Val Cys Val Cys Val Cys Asn Leu Leu Gly Trp Gly
          100          105          110

```

&lt;210&gt; 4495

&lt;211&gt; 3623

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4495

```

cctgaatcct tggagactga catttttccc ccctaaaggc atagacaaca aaagaaattt
60
tattgagagg aaaacacaag tccttaaact gcaaagatgt ttgccaggat gtctgatctc
120
catgttctgc tgttaatggc tctgggtggga aagacagcct gtgggttctc cctgatgtct
180
ttattgaaa gcttggaacc agactggacc cctgaccagt atgattacag ctacgaggat
240
tataatcagg aagagaacac cagtagcaca cttaccacag ctgagaatcc tgactggtac
300
tacactgagg accaagctga tccatgccag cccaaccctt gtgaacacgg tggggactgc
360
ctcgtccatg ggagcacctt cacatgcagc tgcctggctc ctttctctgg gaataagtgt
420
cagaaagtgc aaaatacgtg caaggacaac ccatgtggcc ggggccaatg tctcattacc
480cctactaccg ctgtgtctgt aaacaccctt acacaggtec cagctgctcc      540
caagtgggtc ctgtatgcag gcaaaccctt tgccagaatg gggctacctg ctcccggcat
600
aagcggagat ccaagttcac ctgtgcctgt cccgaccagt tcaaggggaa attctgtgaa
660
ataggttctg atgactgcta tgttggcgat ggctactctt accgagggaa aatgaatagg
720
acagtcaacc agcatgcgtg cctttactgg aactcccacc tcctcttgca ggagaattac
780
aacatgttta tggaggatgc tgaaacccat gggattgggg aacacaattt ctgcagaaac
840
ccagatgcgg acgaaaagcc ctggtgcttt attaaagtta ccaatgacaa ggtgaaatgg
900
gaatactgtg atgtctcagc ctgctcagcc caggacgttg cctaccaga ggaaagcccc
960

```

actgagccat caaccaagct tccgggggttt gactcctgtg gaaagactga gatagcagag  
1020  
aggaagatca agagaatcta tggaggcttt aaaagcacgg cgggcaagca cccatggcag  
1080  
gcgtccctcc agtcctcgct gcctctgacc atctccatgc cccagggcca cttctgtggt  
1140  
ggggcactga tccaccctg ctgggtgctc actgctgccc actgcaccga cataaaaaacc  
1200  
agacatctaa aggtggtgct aggggaccag gacctgaaga aagaagaatt tcatgagcag  
1260  
agctttaggg tggagaagat attcaagtac agccactaca atgaaagaga tgagattccc  
1320  
cacaatgata ttgcattgct caagttaaag ccagtggatg gtcactgtgc tctagaatcc  
1380  
aaatacgtga agactgtgtg cttgcctgat gggtcctttc cctctgggag tgagtgccac  
1440  
atctctggct ggggtgttac agaaacagga aaagggtccc gccagctcct ggatgccaaa  
1500  
gtcaagctga ttgccaacac tttgtgcaac tcccgccaac tctatgacca catgattgat  
1560  
gacagtatga tctgtgcagg aaatcttcag aaacctgggc aagacacctg ccagggtgac  
1620  
tctggaggcc ccctgacctg tgagaaggac ggcacctact acgtctatgg gatagtgagc  
1680  
tggggcctgg agtgtgggaa gaggccaggg gtctacaccc aagttaccaa attcctgaat  
1740  
tggatcaaag ccaccatcaa aagtgaaggt ggcttctaag gtactgtctt ctggacctca  
1800  
gagccactc tccttggcac cctgacaccg ggaggcctca tggccaacaa tggacacctc  
1860  
cagagcctcc aggggaccac acagtagact atccctactc taagcagaga caactgccac  
1920  
ccagcctggg ccttcccaga ccagcatttg cacaatatca ccaggcttct tctgcctccc  
1980  
ttggtaacct aaggaatgat ggaatcaaca caacatagta tgtttgcttt ccttacccaa  
2040  
ttgtacctc tagaaaatca gtgttcacag agactgcctc caccacaggc atcctgcaaa  
2100  
tgcagactcc agaatcccca gcatcagcgg gaaccaccat cacatcttta ttctcagcc  
2160  
cagacactcg aggactcaa cagaatcagc catccacgtc taggtatcag agaggaccac  
2220  
aaatacaaca ttctccatct gctttcagag ttattatattt aataaaggaa gatctgggat  
2280  
gggctggtgg gccattccag cttgccgaaa tcaaagccat ctgaagcctg tctctggtga  
2340  
acaaacttcc tctctggcct ctcaggaatc aggggtggaca tggctcaaaa cagcagggcc  
2400  
ttctttcttt tgacgtgcag aatctcagtg gcatctgggt tcacctccc actctgatga  
2460  
tctccagcct ccactgcttc tgccccccgg taagctccct ggagaccag gcccttgcg  
2520  
ttggccagtt ccgcagccc cgcagccatt tccactttgt aggagccagg aggggtccag  
2580

ccaacacctc tggtcaggtt caagtctgat ttatacttga catcactctg cagctggtgg  
 2640  
 gccttctgag catgcctgag gccagctgc tccgggtcgc aggtgggctg gggcaggggc  
 2700  
 tgcctgtagt gcacatcact ggccagctgc tggctcctct tggcctgaag gaggccgggc  
 2760  
 tggctctgtg tgctgtgaaa ctgggaccga ctcttgcaa agtcttctt gtactcattg  
 2820  
 tcactctgga gcctgccaac gttgaggaaa tgcttcatcc ttgggtcatc gtcgacactg  
 2880  
 cggtaaccga tctgcaggcc tcgggtccgc aggaaagcct ctttgtaccg gaaatcactg  
 2940  
 gcgatctccc tagatgcccg ggcagtctgg aaggggatgg catccagcct gaagtcataa  
 3000  
 ctgccagccc gggctctgtc ccaggagttt ctgtagactt tgtcactcag atgcagcgca  
 3060  
 ttgaggcgag ctcggtgaa atcgggatgg tcggggatca ggggttatct gtgcagggat  
 3120  
 tctgcatctc cagatctata catgcgctca ttgcagtga tatagctgtt cttggcatga  
 3180  
 accaggtctg gggagtcaac cactgtggtg aacttgatac tgtctggtt tttacgggtac  
 3240  
 ttggtctcgc tgatgagttc tccagccttc ttgactctt ccactctgtg ggaactcagc  
 3300  
 gccagccatc ctatgccctt catgccgac aggtctgact tgtagcgcaa ctactctgc  
 3360  
 agggcatggg ctttcttggc ccaggccatc ttcaggctct cgggcagtgc tgtgaacttg  
 3420  
 tgatactgtg tctgtagtc gtggtcgtg gccagagcct gggcattctt ggcattggacc  
 3480  
 aggtgcacca tgtccatggg cagatggaac tgggcttggc tgctggtcgc cccctcctg  
 3540  
 tactgaagct cgctctgcag ctggcccatg cgccggcagt gctggatccg ggggtcgtct  
 3600  
 cttacactct ggggccctat gag  
 3623

&lt;210&gt; 4496

&lt;211&gt; 560

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4496

Met	Phe	Ala	Arg	Met	Ser	Asp	Leu	His	Val	Leu	Leu	Leu	Met	Ala	Leu
1				5				10						15	
Val	Gly	Lys	Thr	Ala	Cys	Gly	Phe	Ser	Leu	Met	Ser	Leu	Leu	Glu	Ser
			20					25					30		
Leu	Asp	Pro	Asp	Trp	Thr	Pro	Asp	Gln	Tyr	Asp	Tyr	Ser	Tyr	Glu	Asp
		35				40						45			
Tyr	Asn	Gln	Glu	Glu	Asn	Thr	Ser	Ser	Thr	Leu	Thr	His	Ala	Glu	Asn
	50					55				60					
Pro	Asp	Trp	Tyr	Tyr	Thr	Glu	Asp	Gln	Ala	Asp	Pro	Cys	Gln	Pro	Asn
65					70					75				80	
Pro	Cys	Glu	His	Gly	Gly	Asp	Cys	Leu	Val	His	Gly	Ser	Thr	Phe	Thr

Cys	Ser	Cys	Leu	Ala	Pro	Phe	Ser	Gly	Asn	Lys	Cys	Gln	Lys	Val	Gln
			100					105					110		
Asn	Thr	Cys	Lys	Asp	Asn	Pro	Cys	Gly	Arg	Gly	Gln	Cys	Leu	Ile	Thr
		115					120					125			
Gln	Ser	Pro	Pro	Tyr	Tyr	Arg	Cys	Val	Cys	Lys	His	Pro	Tyr	Thr	Gly
		130				135					140				
Pro	Ser	Cys	Ser	Gln	Val	Val	Pro	Val	Cys	Arg	Pro	Asn	Pro	Cys	Gln
145					150					155					160
Asn	Gly	Ala	Thr	Cys	Ser	Arg	His	Lys	Arg	Arg	Ser	Lys	Phe	Thr	Cys
				165					170					175	
Ala	Cys	Pro	Asp	Gln	Phe	Lys	Gly	Lys	Phe	Cys	Glu	Ile	Gly	Ser	Asp
			180					185					190		
Asp	Cys	Tyr	Val	Gly	Asp	Gly	Tyr	Ser	Tyr	Arg	Gly	Lys	Met	Asn	Arg
		195					200					205			
Thr	Val	Asn	Gln	His	Ala	Cys	Leu	Tyr	Trp	Asn	Ser	His	Leu	Leu	Leu
		210				215						220			
Gln	Glu	Asn	Tyr	Asn	Met	Phe	Met	Glu	Asp	Ala	Glu	Thr	His	Gly	Ile
225					230					235					240
Gly	Glu	His	Asn	Phe	Cys	Arg	Asn	Pro	Asp	Ala	Asp	Glu	Lys	Pro	Trp
				245					250					255	
Cys	Phe	Ile	Lys	Val	Thr	Asn	Asp	Lys	Val	Lys	Trp	Glu	Tyr	Cys	Asp
			260					265					270		
Val	Ser	Ala	Cys	Ser	Ala	Gln	Asp	Val	Ala	Tyr	Pro	Glu	Glu	Ser	Pro
		275					280					285			
Thr	Glu	Pro	Ser	Thr	Lys	Leu	Pro	Gly	Phe	Asp	Ser	Cys	Gly	Lys	Thr
		290				295						300			
Glu	Ile	Ala	Glu	Arg	Lys	Ile	Lys	Arg	Ile	Tyr	Gly	Gly	Phe	Lys	Ser
305					310					315					320
Thr	Ala	Gly	Lys	His	Pro	Trp	Gln	Ala	Ser	Leu	Gln	Ser	Ser	Leu	Pro
				325					330					335	
Leu	Thr	Ile	Ser	Met	Pro	Gln	Gly	His	Phe	Cys	Gly	Gly	Ala	Leu	Ile
			340				345						350		
His	Pro	Cys	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Thr	Asp	Ile	Lys	Thr
		355					360					365			
Arg	His	Leu	Lys	Val	Val	Leu	Gly	Asp	Gln	Asp	Leu	Lys	Lys	Glu	Glu
						375					380				
Phe	His	Glu	Gln	Ser	Phe	Arg	Val	Glu	Lys	Ile	Phe	Lys	Tyr	Ser	His
385					390					395					400
Tyr	Asn	Glu	Arg	Asp	Glu	Ile	Pro	His	Asn	Asp	Ile	Ala	Leu	Leu	Lys
				405					410					415	
Leu	Lys	Pro	Val	Asp	Gly	His	Cys	Ala	Leu	Glu	Ser	Lys	Tyr	Val	Lys
			420					425					430		
Thr	Val	Cys	Leu	Pro	Asp	Gly	Ser	Phe							



515                      520                      525  
 Trp Gly Leu Glu Cys Gly Lys Arg Pro Gly Val Tyr Thr Gln Val Thr  
 530                      535                      540  
 Lys Phe Leu Asn Trp Ile Lys Ala Thr Ile Lys Ser Glu Ser Gly Phe  
 545                      550                      555                      560

<210> 4497

<211> 840

<212> DNA

<213> Homo sapiens

<400> 4497

nnacgcgtga aacagaaagc agagaaaaag cgactcaaga agaagcgtca aaaggaacgg  
 60  
 aagcgacagg agcggttggga gcagtactgt ggggagccca aggccagcac tacctcagat  
 120  
 ggagatgaga gccccccatc cagccctgga aaccagttc agggacagtg tggatgaagaa  
 180  
 gaggactcac tggatctatc tagcactttt gtgtctctgg ctttgcgcaa ggttggggat  
 240  
 tggccctca gtgcccgcag agagaaggga ctgaaccagg agccccaagg caggggtctg  
 300  
 gccctccaga agatgggtca agaggaagag agccctccaa gagaggagag gccccagcag  
 360  
 agtccaaagg catctccggg actgctggca gctgccttac aacagagcca ggaactggca  
 420  
 aagttgggta ccagctttgc tcaaaatggt ttctaccatg aggccgtggt cctcttcacc  
 480  
 caggccttga agctcaaccc ccaggaccac cggttatttg gaaatcggtc cttctgccat  
 540  
 gagcggttgg gtcagccagc gtggggccctg gctgatgccc aggtggccct taccctacgg  
 600  
 cctggtggtg cccggggcct cttecgctg ggcaaggcct tgatgggact acagcgcttc  
 660  
 agagaggcag ctgctgtgtt tcaggaaact ctgagaggtg ggtcccagcc tgacgcagcc  
 720  
 cgagagctcc gctcttgctt tctccacctc acactgcagg gtcagcgagg aggaatctgt  
 780  
 gcaccgcctc tgtcacctgg ggccctccag ccacttcccc atgctgagct ggcaccctca  
 840

<210> 4498

<211> 280

<212> PRT

<213> Homo sapiens

<400> 4498

Xaa Arg Val Lys Gln Lys Ala Glu Lys Lys Arg Leu Lys Lys Lys Arg  
 1                      5                      10                      15  
 Gln Lys Glu Arg Lys Arg Gln Glu Arg Leu Glu Gln Tyr Cys Gly Glu  
 20                      25                      30  
 Pro Lys Ala Ser Thr Thr Ser Asp Gly Asp Glu Ser Pro Pro Ser Ser  
 35                      40                      45  
 Pro Gly Asn Pro Val Gln Gly Gln Cys Gly Glu Glu Glu Asp Ser Leu

50                      55                      60  
 Asp Leu Ser Ser Thr Phe Val Ser Leu Ala Leu Arg Lys Val Gly Asp  
 65                      70                      75                      80  
 Trp Pro Leu Ser Ala Arg Arg Glu Lys Gly Leu Asn Gln Glu Pro Gln  
                     85                      90                      95  
 Gly Arg Gly Leu Ala Leu Gln Lys Met Gly Gln Glu Glu Glu Ser Pro  
                     100                      105                      110  
 Pro Arg Glu Glu Arg Pro Gln Gln Ser Pro Lys Ala Ser Pro Gly Leu  
                     115                      120                      125  
 Leu Ala Ala Ala Leu Gln Gln Ser Gln Glu Leu Ala Lys Leu Gly Thr  
                     130                      135                      140  
 Ser Phe Ala Gln Asn Gly Phe Tyr His Glu Ala Val Val Leu Phe Thr  
 145                      150                      155                      160  
 Gln Ala Leu Lys Leu Asn Pro Gln Asp His Arg Leu Phe Gly Asn Arg  
                     165                      170                      175  
 Ser Phe Cys His Glu Arg Leu Gly Gln Pro Ala Trp Ala Leu Ala Asp  
                     180                      185                      190  
 Ala Gln Val Ala Leu Thr Leu Arg Pro Gly Trp Pro Arg Gly Leu Phe  
                     195                      200                      205  
 Arg Leu Gly Lys Ala Leu Met Gly Leu Gln Arg Phe Arg Glu Ala Ala  
                     210                      215                      220  
 Ala Val Phe Gln Glu Thr Leu Arg Gly Gly Ser Gln Pro Asp Ala Ala  
 225                      230                      235                      240  
 Arg Glu Leu Arg Ser Cys Leu Leu His Leu Thr Leu Gln Gly Gln Arg  
                     245                      250                      255  
 Gly Gly Ile Cys Ala Pro Pro Leu Ser Pro Gly Ala Leu Gln Pro Leu  
                     260                      265                      270  
 Pro His Ala Glu Leu Ala Pro Ser  
                     275                      280

&lt;210&gt; 4499

&lt;211&gt; 562

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4499

ntcacacag actatgctgt tcagccacat gtgggcacgg gggcagtgaa ggtgactcca  
 60  
 gctcacagtc ctgccgatgc tgagatgggg gcccgacatg gcttgagccc cttgaatgtc  
 120  
 attgcggagg atgggacat gacctccctc tgcggggact ggttgacagg tcttcaccgg  
 180  
 tttgtggccc gggaaaagat aatgtctgtg ctgagtgaac ggggcctatt cgggggcctc  
 240  
 cagaaccacc ccatggtact gcccatctgc aggtaatctc attttaactc ctttactaag  
 300  
 ggctacccca aaagggaaatg tatggagctt aagggtgaca ataggatggg ctctgcaccc  
 360  
 ctccgttaga atacgagctc cgtgtcgggt ttattcgcta ttgtatcctc agtaccaagg  
 420  
 gcctggcatg gcatggggtc ctgtgccctt gggagaagtc acagggccgg aagagcagtg  
 480  
 gactcaccct gtctctcttt cagccgttct ggggatgtga tagaatacct gctgaagaac  
 540

cagtggtttg tccgctgcca cg  
562

<210> 4500

<211> 91

<212> PRT

<213> Homo sapiens

<400> 4500

Xaa	Ile	Thr	Asp	Tyr	Ala	Val	Gln	Pro	His	Val	Gly	Thr	Gly	Ala	Val
1				5					10					15	
Lys	Val	Thr	Pro	Ala	His	Ser	Pro	Ala	Asp	Ala	Glu	Met	Gly	Ala	Arg
			20					25					30		
His	Gly	Leu	Ser	Pro	Leu	Asn	Val	Ile	Ala	Glu	Asp	Gly	Thr	Met	Thr
		35				40						45			
Ser	Leu	Cys	Gly	Asp	Trp	Leu	Gln	Gly	Leu	His	Arg	Phe	Val	Ala	Arg
	50					55					60				
Glu	Lys	Ile	Met	Ser	Val	Leu	Ser	Glu	Arg	Gly	Leu	Phe	Arg	Gly	Leu
65					70					75					80
Gln	Asn	His	Pro	Met	Val	Leu	Pro	Ile	Cys	Arg					
				85					90						

<210> 4501

<211> 1866

<212> DNA

<213> Homo sapiens

<400> 4501

gggtggataa gacaccgctg cccctccaat tcccgtaagc accccttgct ccatacctgcg  
60  
cccaataacc tcagctagcc cccttcccca cttcttacac tccaaactca gccgggacag  
120  
acctctgctg ccgccgcccc cacgaacgtg tgacgacggc tggaggccaa cagagtcctt  
180  
acaggtggtg ctcacggtaa tgcaccgaca atgagtggct gttttccagt ttctggcctc  
240  
cgctgcctat ctaggacgag caggatggcc gcgcagggcg cgccgcgctt cctcctgacc  
300  
ttcgacttcg acgagactat cgtggacgaa aacagcgacg attcgatcgt gcgcgccgag  
360  
ccggggccagc ggctcccgga gagcctgcga gccacctacc gcgagggctt ctacaacgag  
420  
tacatgcagc gcgtcttcaa gtacctgggc gagcagggcg tgcggccgag ggacctgagc  
480  
gccatctacg aagccatccc tttgtcgcca ggcattgagc acctgctgca gtttgtggca  
540  
aaacagggcg cctgcttcga ggtgattctc atctccgatg ccaacacctt tggcgtggag  
600  
agctcgctgc gcgccgccc ccaccacagc ctgttccgcc gcatcctcag caaccgctcg  
660  
gggccggatg cgccgggact gctggctctg cgcccgcttc acacacacag ctgcgcgcgc  
720  
tgccccgcca acatgtgcaa gcacaagggtg ctcagcgact acctgcgcga gcggggccac  
780

gacggcgtgc acttcgagcg cctcttctac gtgggtgatg gtgcaaata cttctgcccc  
 840  
 atggggctgc tggcgggcg cgacgtggcc ttcccgcgcc gcggctaccc catgcaccgc  
 900  
 ctcattcagg aggccagaa ggccgagccc agctcgttcc gcgccagcgt ggtgccctgg  
 960  
 gaaacggctg cagatgtgcg cctccacctg caacaggtgc tgaagtcgtg ctgagtcctgg  
 1020  
 ccgcctgcag ggggggtaccc gggccaacgg cggagggggc ggggaagggg gattcggcaa  
 1080  
 agacagcttt actactccct tttccctttg gctttgttat gtccctctgg gaatttctgg  
 1140  
 aatctcgtat ttgggggctt ggggaagggg gctcagagcc gtccctatct attcagttaa  
 1200  
 cccacctcgg ctgcctcccc cactccactg tgcacggttg agttctggag tctgacccat  
 1260  
 cgcgggggtgg cgcgcaaacc ttggaaggca gcagtatttc ctggctcctcc caactgggag  
 1320  
 gaagggggccc ccccggcagg tgagagaagg aacatctccc gccgctgtaa cttgttgctt  
 1380  
 cgggtgcgt gaccgcccct cctccagtct actgtggagg gaaccagga tcttgaaatt  
 1440  
 ctcttgcccg caagaactcc ccacagaggc agaagagggt ctccacctat ggcccaggc  
 1500  
 ctttgcgata ttgcttcacc caccgcgacc ccacactatt tctgtgctgt ccacactctc  
 1560  
 ttgcctcccg acccccgcac tcccttctag caccctccaa ggaaaagcca gaggaacaat  
 1620  
 cgctcctcgg tgggtgtacg aggtagcgca ccgtccggct cgggtccgga cagccagtaa  
 1680  
 cctcgcagag agtgacggtg tctccttgca tcccagcctc gtctatgcag caagagacca  
 1740  
 gggacttcac caaagtcacc ctgcgggct gggccttcca cgcaccccc ccacccccca  
 1800  
 tggaacagaa agccatgttt ttaagcagaa ccagcgaaac ccaagcccct ccttctctgt  
 1860  
 gtgttt  
 1866

&lt;210&gt; 4502

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4502

Met	Ser	Gly	Cys	Phe	Pro	Val	Ser	Gly	Leu	Arg	Cys	Leu	Ser	Arg	Asp
1				5				10					15		
Gly	Arg	Met	Ala	Ala	Gln	Gly	Ala	Pro	Arg	Phe	Leu	Leu	Thr	Phe	Asp
			20					25					30		
Phe	Asp	Glu	Thr	Ile	Val	Asp	Glu	Asn	Ser	Asp	Asp	Ser	Ile	Val	Arg
		35					40					45			
Ala	Ala	Pro	Gly	Gln	Arg	Leu	Pro	Glu	Ser	Leu	Arg	Ala	Thr	Tyr	Arg
		50				55					60				
Glu	Gly	Phe	Tyr	Asn	Glu	Tyr	Met	Gln	Arg	Val	Phe	Lys	Tyr	Leu	Gly

65					70					75						80
Glu	Gln	Gly	Val	Arg	Pro	Arg	Asp	Leu	Ser	Ala	Ile	Tyr	Glu	Ala	Ile	
				85					90					95		
Pro	Leu	Ser	Pro	Gly	Met	Ser	Asp	Leu	Leu	Gln	Phe	Val	Ala	Lys	Gln	
			100					105					110			
Gly	Ala	Cys	Phe	Glu	Val	Ile	Leu	Ile	Ser	Asp	Ala	Asn	Thr	Phe	Gly	
		115					120					125				
Val	Glu	Ser	Ser	Leu	Arg	Ala	Ala	Gly	His	His	Ser	Leu	Phe	Arg	Arg	
						135					140					
Ile	Leu	Ser	Asn	Pro	Ser	Gly	Pro	Asp	Ala	Arg	Gly	Leu	Leu	Ala	Leu	
145					150					155					160	
Arg	Pro	Phe	His	Thr	His	Ser	Cys	Ala	Arg	Cys	Pro	Ala	Asn	Met	Cys	
			165						170					175		
Lys	His	Lys	Val	Leu	Ser	Asp	Tyr	Leu	Arg	Glu	Arg	Ala	His	Asp	Gly	
			180					185					190			
Val	His	Phe	Glu	Arg	Leu	Phe	Tyr	Val	Gly	Asp	Gly	Ala	Asn	Asp	Phe	
		195					200					205				
Cys	Pro	Met	Gly	Leu	Leu	Ala	Gly	Gly	Asp	Val	Ala	Phe	Pro	Arg	Arg	
	210					215					220					
Gly	Tyr	Pro	Met	His	Arg	Leu	Ile	Gln	Glu	Ala	Gln	Lys	Ala	Glu	Pro	
225					230					235					240	
Ser	Ser	Phe	Arg	Ala	Ser	Val	Val	Pro	Trp	Glu	Thr	Ala	Ala	Asp	Val	
			245						250					255		
Arg	Leu	His	Leu	Gln	Gln	Val	Leu	Lys	Ser	Cys						
			260					265								

```
<210> 4503
<211> 1983
<212> DNA
<213> Homo sapiens
```

```

<400> 4503
ncggaaggca agtgaaaatg ggtgtccctg ctgcctctta gcaacaagag ggggtcaagtg
60
acacaaccag ctgactcccc tagaggaaga cactgtggag gccagttctg gagctattgc
120
agcctcggtt gcccggccgg ggacccgagc cgaaaagtta tcgtcagaat gtcgggcaaa
180
gaccgaattg aaatctttcc ctcgcgaaatg gcacagacca tcatgaaggc tcgattaaag
240
ggagcacaga caggctcgaaa cctcctgaag aaaaaatctg atgccttaac tcttcgattt
300
gcacagatcc taaagaagat aatagagact aaaatgttga tgggcgaagt gatgagagaa
360
gctgcctttt cactagctga agccaagttc acagcaggtg acttcagcac tacagttatc
420
caaaatgtca ataaagcgca agtgaagatt cgagcgaaga aagataatgt agcagggtgtt
480
actttgccag tatttgaaca ttaccatgaa ggaactgaca gttatgaact gactggttta
540
gccagagggtg gggaacagtt ggctaaatta aagaggaatt atgccaaagc agtgggaacta
600
ctgggtggaac tagcttctct gcagacttct tttgttactt tggatgaagc tattaagata
660

```

accaacaggc gtgtaaatgc cattgaacat ggtgagtatg tcatcattcc ccggattgaa  
 720  
 cgtactcttg cttatatcat cacagagctg gatgagagag agcgagaaga gttctatagg  
 780  
 ttaaagaaaa tacaagagaa gaaaaagatt ctaaaggaaa aatctgagaa ggacttggag  
 840  
 caaaggagag cagctggaga ggtgttggag cctgctaatac ttctggctga agagaaggac  
 900  
 gaggatcttc tatttgaata atctttcctg ttctggttct ttgagaaacc ctaacactgg  
 960  
 cttcatttta attcacagtg tgtaggtttg atttgtgtgg ctatttattt tttggcctaa  
 1020  
 gaatttcact ggttgtaaaa ttacctaga tgtctattta tgggattact tttgcagaat  
 1080  
 cataatttag caaccattta tcatggatga aagagatctg taaaacctgc ccaggaactt  
 1140  
 acagaattta ctttgcagaa gcgttatcat actccattta catctgtgtt acacgtgatc  
 1200  
 tgcttaccaa gcatattagg aaatacctct taggaagcat tagcgggtctc aggccaat  
 1260  
 ctgtggagca gctttcattc ctaccactt gcaaaccttg gcgctgttgt ctgagattgc  
 1320  
 tgcagccatt cttgttacca tggtaactct caaactttgt gaaaacctgc acttttcctt  
 1380  
 gcatgacagg ttctgtctt gtctgtcatg ggagccattc tgccaattta aatgcgactg  
 1440  
 tggataaac agtaaaatga tttaaaagta agtcattccg tttttattaa tttactgtta  
 1500  
 agtcatgttc tcatgctcag atcagtagtg tcagccagag ctttctctgc agacatgtag  
 1560  
 gaagtgggta gctatttttc ccactccatg tattagagtt ttacaaaaag gcttactttt  
 1620  
 gagacaactg ttgcattttg ggttactaat aaatgattgc cgatgagtta tgagggcatt  
 1680  
 ataatacttc cttatttgct aattaagaaa ataactagtt cctatttttag agtaagaaat  
 1740  
 aaggtaactt tttactattt ataagtgata aaaacttgct ttcatatatg aagatgaagc  
 1800  
 atttgagtgg ccacatcagg tgtctgaggt ttttagtact gtttgatttg gcatgagcca  
 1860  
 tccatgggga ctcagtcttt ctgcaccca tttccaggca tttttgacat gattagccat  
 1920  
 ggaataatgt ttagttctga aattgtgaca ctgtctttat taatactgta ttttaatcaa  
 1980  
 gtg  
 1983

&lt;210&gt; 4504

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4504Ser Gly Lys Asp Arg Ile Glu Ile Phe Pro Ser Arg Met Ala Gln

1

5

10

15

Thr Ile Met Lys Ala Arg Leu Lys Gly Ala Gln Thr Gly Arg Asn Leu  
 20 25 30  
 Leu Lys Lys Lys Ser Asp Ala Leu Thr Leu Arg Phe Arg Gln Ile Leu  
 35 40 45  
 Lys Lys Ile Ile Glu Thr Lys Met Leu Met Gly Glu Val Met Arg Glu  
 50 55 60  
 Ala Ala Phe Ser Leu Ala Glu Ala Lys Phe Thr Ala Gly Asp Phe Ser  
 65 70 75 80  
 Thr Thr Val Ile Gln Asn Val Asn Lys Ala Gln Val Lys Ile Arg Ala  
 85 90 95  
 Lys Lys Asp Asn Val Ala Gly Val Thr Leu Pro Val Phe Glu His Tyr  
 100 105 110  
 His Glu Gly Thr Asp Ser Tyr Glu Leu Thr Gly Leu Ala Arg Gly Gly  
 115 120 125  
 Glu Gln Leu Ala Lys Leu Lys Arg Asn Tyr Ala Lys Ala Val Glu Leu  
 130 135 140  
 Leu Val Glu Leu Ala Ser Leu Gln Thr Ser Phe Val Thr Leu Asp Glu  
 145 150 155 160  
 Ala Ile Lys Ile Thr Asn Arg Arg Val Asn Ala Ile Glu His Gly Glu  
 165 170 175  
 Tyr Val Ile Ile Pro Arg Ile Glu Arg Thr Leu Ala Tyr Ile Ile Thr  
 180 185 190  
 Glu Leu Asp Glu Arg Glu Arg Glu Glu Phe Tyr Arg Leu Lys Lys Ile  
 195 200 205  
 Gln Glu Lys Lys Lys Ile Leu Lys Glu Lys Ser Glu Lys Asp Leu Glu  
 210 215 220  
 Gln Arg Arg Ala Ala Gly Glu Val Leu Glu Pro Ala Asn Leu Leu Ala  
 225 230 235 240  
 Glu Glu Lys Asp Glu Asp Leu Leu Phe Glu  
 245 250

&lt;210&gt; 4505

&lt;211&gt; 379

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4505

gaattcacca agaagatgcc tggaggagag ccaaggctga agatgctgcc gacccagtg  
 60  
 ccgggctctc tagagcatgt gttacagtca aatcagagac agaaagagcg gagaagacag  
 120  
 tgggtgcttt ggctgtccag cctcagtaat cagatacatc ctacaccttc agcacagggc  
 180  
 caggcagcct tgaggcaaac atgtcccat ctcagggaat caggaccatt gagtgtgagg  
 240  
 catgtggccc tcctggccct ggagacagca tcacaccct cagggcccca cacgaaccag  
 300  
 gcccctagcc ctgcaacgtc tcctaaatgc ccctcagagc cagcaactcc atcttcaca  
 360  
 gattcactaa tcaagatct  
 379

&lt;210&gt; 4506

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4506

```

Met Pro Gly Gly Glu Pro Arg Leu Lys Met Leu Pro Thr Pro Val Pro
1      5      10      15
Gly Ser Leu Glu His Val Leu Gln Ser Asn Gln Arg Gln Lys Glu Arg
20      25      30
Arg Arg Gln Trp Trp Leu Trp Leu Ser Ser Leu Ser Asn Gln Ile His
35      40      45
Pro Thr Pro Ser Ala Gln Gly Gln Ala Ala Leu Arg Gln Thr Cys Pro
50      55      60
His Leu Arg Glu Ser Gly Pro Leu Ser Val Arg His Val Ala Leu Leu
65      70      75      80
Ala Leu Glu Thr Ala Ser His Pro Ser Gly Pro His Thr Asn Gln Ala
85      90      95
Pro Ser Pro Ala Thr Ser Pro Lys Cys Pro Ser Glu Pro Ala Thr Pro
100     105     110
Ser Ser Thr Asp Ser Leu Ile Lys Ile
115     120

```

&lt;210&gt; 4507

&lt;211&gt; 3664

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4507

```

agcatttcct taaaaagaaa agtctagtaa cgaggccatc ccggcggtcag aagcggtcag
60
gctggggtttg acaagatcag aaccgaaatg actacgaaag tgggaataca aggaggtgca
120
tttactacac attaacgttc agcgaactcc cacaatcttt aaacacacag ccattggaag
180
gacgatcttg agcaggaagg gtttttactc gttgtggtgc gctgtcttcc cgcttgcgtc
240
agggacctgc ccgactcagt ggccgccatg gcatcagatg aaggcaaact ttttgttga
300
gggctgagtt ttgacaccaa tgagcagtcg ctggagcagg tcttctcaaa gtacggacag
360
atctctgaag tgggtggtgt gaaagacagg gagaccaga gatctcgggg atttggttt
420
gtcacctttg agaacattga cgacgctaag gatgccatga tggccatgaa tgggaagtct
480
gtagatggac ggcagatccg agtagaccag gcaggcaagt cgtcagacaa ccgatcccg
540
gggtacctg gtggctctgc cgggggcccgg ggcttcttcc gtgggggccc aggacggggc
600
cgtgggttct ctagaggagg aggggaccga ggctatgggg ggaaccggtt cgagtccagg
660
agtgggggct acggaggctc cagagactac tatagcagcc ggagtcagag tgggtggctac
720
agtgaccgga gctcgggcgg gtcctacaga gacagttacg acagttacgc tacacacaac
780

```



gagtaaaaaac ccttctctgct caagatcgtc cttccaatgg ctgtgtgttt aaagattgtg  
840  
ggagcttcgc tgaacgttaa tgtgtagtaa atgcacctcc ttgtattccc actttcgtag  
900  
tcatttcggt tctgatcttg tcaaaccag cctgaccgct tctgacgccg ggatggcctc  
960  
gttactagac ttttcttttt aaggaagtgc tgtttttttt tgagggtttt caaaacattt  
1020  
tgaaaagcat ttactttttt gaccacgagc catgagtttt caaaaaaatc gggggttgtg  
1080  
tgggtttttg gtttttgttt tagtttttgg ttgcgttgcc tttttttttt tagtgggggt  
1140  
ggcccatga agtgggtgcc ccactcactt ctctgagatc gaacggactg tgaatccgct  
1200  
ctttgtcgga agctgagcaa gctgtggctt ttttccaact ccgtgtgacg tttctgagt  
1260  
tagtgtggtg ggaccccgcc ggggtgtggca gcaactgccc tggagcccca gccctgcgt  
1320  
ccatctgtgc tgtgcgcccc acagtagacg tgcagacgtc cctgagaggt tcttgaagat  
1380  
gtttatttat attgtccttt tttactggaa gacgtacgca tactccatcg atgttgtatt  
1440  
tgcagtggct gaggaattct tgtacgcagt tttctttggc tttacgaagc cgattaaaag  
1500  
accgtgtgaa atgaaccttg ctctgacaat tcccttgcat tgcaccacac actccttgct  
1560  
gcggtctcct gcagccagac ctgagcagag agagaagggtg gagaagcagc ggggtctgcaa  
1620  
gccttccctg gggcctgcag agctagaaag ggaggccag cagactggcg ctggtcaggg  
1680  
taggggagcc aggcggggga cgggagcggg cagctcaggc ctcagggcag ccctgggagg  
1740  
cttctggcag tgggtggccag agggctggac tgtgcgggca gcttagcagg gacagtggac  
1800  
gtgcacctga cgctgacctg gactgcctca gtctagaagc aggccagaga gcagaggcac  
1860  
gtggcatccc agggcgacct cagacggcca gccggttagc tagttctgct gttgcttcac  
1920  
gagttctgag cattctctgc tagcctatgg aagctgcagc cctcggagga cagaagtgtt  
1980  
gtgcgcccac cagaaccctc tgagacgcaa gctgctccct tggctagctc atatgtggaa  
2040  
atagccctgt aattcgaggt aactccttcc gctcgtgtcc acatccctct tgttgagagc  
2100  
tactgaaag tcatgtgccg ggggaatgtt cctgtgactg ttttttgttt ttcctttttt  
2160  
ttttaacttt gtttttgttt ttttcaatta agctggaact aaagtcaggc ccagccatta  
2220  
cgctccccac gtgcagccag gtgcagcctg ggcccagtca tgctggctc atagatgaaa  
2280  
tcccttaagc aggattgaag accagtgaac gccccgcct tttggatttt ttgctcaatt  
2340  
gacgtcttt tccagacctc ttttaagtcac actcttaact tagctttctc tgatgtctgt  
2400

tgccgccatt agtttttttc tagagcccac actggcccac atagctccat cccatacggg  
 2460  
 tagctggctc cagctgcgcc aaggtgcaga cccgccctgg gcatgctggc ctgtgacgga  
 2520  
 gcctgaggtc acagccccct gactagcctg agaccttctt aggggctgtg gctgtttccg  
 2580  
 gggaggccgg gaggggcagc tgtgagccct gtggaggacg ttgggagtaa cgctgctttg  
 2640  
 ctttggcagg ttgaaggggc ccggccagga ctcggggaag ggtggcctga gagcagcgat  
 2700  
 gacctctggg gtcactgtcc caggaggagc ttcacctgga acaagagctg gaggcagccg  
 2760  
 cttgcccagg aggcttgtcc cctgaggcgc ttcgccagtg aggtgcgggc tcagggcctc  
 2820  
 gagtctctcc tggagcacgg gctgcggtgc gccggcagct tacggggcgg ccagtccttg  
 2880  
 cccacaacga tgtggagccc tgtgaaagtc ggattcgaat aaagggccac gtgtgcaccc  
 2940  
 agaaagccga gtctgtggtt caggggggtc tgtcggcgga gcggggccac tgggaagaaa  
 3000  
 gcctgcggac ctcggttcag cgcacgagta ggacccgaca ggaagactg caagggtcat  
 3060  
 tgtccgagca gtgaccgagg ggggctcgcc actgaggggg ttcgcagcgc ggagactcca  
 3120  
 gtctcgcggg atctgaggcg cactcggtt cgaggagcg gcggccgcgc agccgctgtc  
 3180  
 aggccccgtc ttgggcccag tcccgggttc cctgtagcag gctggggagc ggggcgccac  
 3240  
 cttcctgggc cctggacgtg gccgacgcgt tctcagtgtc cgtgaggccg gggcaggagt  
 3300  
 ggcgggggtc gccccgaagt gggtggaat gagcggcccg aggtcctgaa gtcgggggtc  
 3360  
 gccccgtctc cccgctgccg gcccgatttc ctcggaagcc gcgaccccc acgctggggt  
 3420  
 ggcagttctg ggctctgccg gctgcgcctt gccgggactc ccacgggcgg gctccggggc  
 3480  
 tccgtcctga tcccttgag cgggtcgacg aagcaagttc cgcggcgggc gcgcggggca  
 3540  
 ctgtgggtag cgccggggct caccaggcgg aaggggggccc cggcgtaag ctccgcctcc  
 3600  
 gcgccccatt ggctggcatc acctccgcgc gcctgactga cagcgcgcat aggggctgtg  
 3660  
 cgcc  
 3664

&lt;210&gt; 4508

&lt;211&gt; 172

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4508

Met Ala Ser Asp Glu Gly Lys Leu Phe Val Gly Gly Leu Ser Phe Asp  
 1 5 10 15  
 Thr Asn Glu Gln Ser Leu Glu Gln Val Phe Ser Lys Tyr Gly Gln Ile

20 25 30  
 Ser Glu Val Val Val Val Lys Asp Arg Glu Thr Gln Arg Ser Arg Gly  
 35 40 45  
 Phe Gly Phe Val Thr Phe Glu Asn Ile Asp Asp Ala Lys Asp Ala Met  
 50 55 60  
 Met Ala Met Asn Gly Lys Ser Val Asp Gly Arg Gln Ile Arg Val Asp  
 65 70 75 80  
 Gln Ala Gly Lys Ser Ser Asp Asn Arg Ser Arg Gly Tyr Arg Gly Gly  
 85 90 95  
 Ser Ala Gly Gly Arg Gly Phe Phe Arg Gly Gly Arg Gly Arg Gly Arg  
 100 105 110  
 Gly Phe Ser Arg Gly Gly Gly Asp Arg Gly Tyr Gly Gly Asn Arg Phe  
 115 120 125  
 Glu Ser Arg Ser Gly Gly Tyr Gly Gly Ser Arg Asp Tyr Tyr Ser Ser  
 130 135 140  
 Arg Ser Gln Ser Gly Gly Tyr Ser Asp Arg Ser Ser Gly Gly Ser Tyr  
 145 150 155 160  
 Arg Asp Ser Tyr Asp Ser Tyr Ala Thr His Asn Glu  
 165 170

&lt;210&gt; 4509

&lt;211&gt; 11680

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4509

nncagcagtg attccagcag tagttcaagt gatgattctc cagctcgatc agttcagtc  
 60  
 gcagcagtc ctgcacccac ttccagttg ctttcatctc tggaaaaaga tgagccccgt  
 120  
 aaaagttttg gcatcaaggt ccagaatctt ccagtacgct ctacagatac aagccttaaa  
 180  
 gatggccttt tccatgaatt taagaaattt ggaaaagtaa cttcagtgca gatacatgga  
 240  
 acttcagaag agaggtatgg tctggtattc tttcggcagc aagaggacca agaaaaagcc  
 300  
 ttgactgcat caaaaggaaa acttttcttt ggcattgcaga ttgaagtaac agcatggata  
 360  
 ggtccagaaa cagaaagtga aaatgaattt cgccccttgg atgaaaggat agatgaattt  
 420  
 caccctcaaag caacaagaac tctctttatt ggcaaccttg aaaaaaccac tacttaccat  
 480  
 gaccttcgca acatcttcca gcgctttgga gaaattgtgg atattgacat taagaaagta  
 540  
 aatggagttc ctcagtatgc gtttctgcaa tactgtgata ttgctagcgt ttgtaaagct  
 600  
 attaagaaga tggatgggga atatcttggg aataatcgcc tcaagctggg ttttggaaa  
 660  
 agcatgccta caaactgcgt gtggctagat gggctttctt cgaatgtgtc agatcagtat  
 720  
 ttaacacgac atttctgccc atatgggcct gtggtaaagg tgggtgttga ccgcttaaaa  
 780  
 ggcattggccc tggttctcta caatgaaatt gaatatgcac aagcagctgt aaaagagacc  
 840

aaagggagga aaatcgggtgg gaataaaatt aaggtggatt ttgcaaactcg ggaaagtcag  
900  
ctggccttttt atcactgcat ggagaaatct ggtcaagaca tcagagactt ttatgaaatg  
960  
ttagccgaaa gaagagagga acgaagggca tcctacgact ataaccaaga tcgtacatat  
1020  
tatgagagtg ttcgaactcc aggcacttat cctgaggatt ccaggcggga ctatccagct  
1080  
cgaggagag agttttattc agaatgggaa acttaccaag gagactacta tgaatcacga  
1140  
tactacgatg atcctcggga atacagggat tacaggaatg atccttatga acaagatat  
1200  
agggaaatata gttacaggca aagggaaacga gaaagagaac gtgaaagatt tgagtctgac  
1260  
cgggacagag accatgagag gaggccgatt gaacgaagtc aaagtcctgt tcacttgcca  
1320  
cgtccacaga gtctcggagc gtctccctct caggcagaga ggttgccgag tgattctgag  
1380  
aggaggcttt acagccgatc ctccagaccgg agtggaagct gtagctcact ctcccccca  
1440  
agatatgaga aactggacaa gtctcgtttg gagcgctata caaaaaatga aaagacagat  
1500  
aaagaacgaa cttttgatcc ggagagagtg gagagagaga gacgcttaat acggaaggaa  
1560  
aaagtggaaa aggacaaaac tgacaagcag aaacgcaaag gaaagggttca ctccccctagt  
1620  
tctcagtctt cagaaacgga ccaagaaaat gagcgagagc aaagccctga aaagcccagg  
1680  
agttgtaata aactgagcag agagaaagct gacaaagagg gaatagcgaa aaaccgcctg  
1740  
gaactcatgc cttgcgtggt tttgactcga gtgaaagaga aagagggaaa ggtcattgac  
1800  
cacactcctg tggaaaagtt gaaagccaag cttgataatg acactgtcaa atcttctgcc  
1860  
ctggaccaga aacttcaggt ctctcagacg gagcctgcaa aatctgactt gtctaaactg  
1920  
gaatcagtta gaatgaaagt accaaaggaa aaggggcttt caagccatgt tgaagtgggtg  
1980  
gagaagggaag gcaggcttaa agccaggaag cacctcaagc ctgagcagcc tgcagatggg  
2040  
gtaagtgtg tggatctgga gaagctggaa gccaggaaaa ggcgctttgc agattccaat  
2100  
ttaaaagcag aaaagcaaaa accagaggtc aagaaaagca gtccagagat ggaggatgct  
2160  
cgcgtgcttt caaaaaagca gcctgacgtg tcctctagag aggtcattct gctgagggaa  
2220  
ggagaggctg aaagaaagcc tgtgaggaaa gaaattctta aaagagaatc taaaaaaatc  
2280  
aaactggaca gacttaatac tgttgccagc cccaaagact gtcaggagct tgccagtatt  
2340  
tctgttgggt ctggctcaag gccagctca gacctacaag caagactggg agaactagca  
2400  
ggtgaatctg tggaaaatca agaagtccaa tcaaaaaagc ccattccctc aaaaccacag  
2460

ctcaaacagc tgcaggtatt agatgatcaa ggaccagaga gagaagacgt taggaaaaac  
2520  
tattgcagtc ttcgtgatga aacacctgaa cgtaaatacag gccaaagagaa atcacattca  
2580  
gtaaatactg aagaaaaaat tggcattgac atcgatcaca cgcagagtta ccgaaaaaca  
2640  
atggaacaga gtcgtaggaa acagcagatg gaaatggaaa tagccaagtc tgagaagttt  
2700  
ggcagtccta aaaaagatgt agatgaatat gaaagacgta gcctcgttca cgaggtaggc  
2760  
aaacccccctc aagatgtcac tgatgactct cctcctagca aaaagaaaag gatggatcat  
2820  
gtcgattttg atatctgcac caagcgagaa cggaattaca gaagttcacg ccaaatacagc  
2880  
gaagattctg aaaggactgg tggttctccc agtgtccgac atgggttcctt ccatgaagat  
2940  
gaggatccca taggctcccc taggctactg tcagtaaaag ggtctcctaa agtagatgaa  
3000  
aaagtctctc cctattctaa cataacagtc agggaagagt ctttaaaatt taatccttat  
3060  
gattctagca ggagagaaca gatggcagat atggccaaaa taaaactatc tgtcttgaat  
3120  
tctgaagatg aactaaatcg ttgggactct cagatgaaac aggatgctgg cagatttgat  
3180  
gtgagtttcc caaacagcat aattaagaga gatagccttc gaaaaaggtc tgtacgagat  
3240  
ctggaacctg gtgaggtgcc ttctgattct gacgaagatg gtgaacacaa atcccactca  
3300  
cccagagcct ctgcattata tgaaagttct cgattgtctt ttttattgag ggacagagaa  
3360  
gacaagctac gtgagcgaga tgaaagactc tctagttctt tagaaaggaa caaatTTTtac  
3420  
tcttttgcac tggataagac aatcacacca gacactaaag ctttgcttga aagagctaaa  
3480  
tccctctctt catctcgtga agaaaattgg tcttttcttg attgggactc ccgatttgca  
3540  
aatttttcgaa acaacaaaga taaagaaaag gttgactctg ctccaagacc tattccatcc  
3600  
tggtagatga aaaagaagaa aattaggact gattcagaag ggaaaatgga tgataagaaa  
3660  
gaggaccata aagaagaaga gcaagagagg caggaattgt ttgcttctcg ttttttacac  
3720  
agctcaatct ttgaacaaga ttccaagcga ttgcagcatc tagagagaaa agaggaagat  
3780  
tctgacttca tttctggtag gatctatggg aagcagacat ctgagggagc aaacagcaca  
3840  
actgattcca ttcaagaacc agtagttctg ttccatagca gatttatgga gctcacacgg  
3900  
atgcaacaga aaaaaaaga aaaagaccag aaacccaaag aggttgagaa acaggaagat  
3960  
acagagaatc atcccaaaac ccagaaatct gctcctgaga ataaagattc agaactgaaa  
4020  
actccacctt ccgttgggcc tccaagtgtc acagtcgtaa ctctagaatc agccccatca  
4080

gcactagaga agaccactgg tgacaaaacg gtagaggcgc ctttggtaac agaagagaag  
4140  
actgtggagc cagctaccgt ctcagaagaa gcaaagcctg catctgaacc tgctcctgcc  
4200  
cctgtggaac agctggaaca agtagacctg cccccaggag cagaccccgga taaagaagct  
4260  
gccatgatgc ctgcggtgtg tgaggaaggt tcatcagggt accagccgcc ttatctggat  
4320  
gccaagcctc caactcccgg ggcctcgttt tcccaggcag agagcaacgt agatccagag  
4380  
cctgacagta cccagccact ttcaaaacca gctcagaagt ctgaggaagc caatgagcca  
4440  
aaggccgaaa agccagacgc cactgcagat gctgagcctg atgcaaacca gaaagccgaa  
4500  
gctgctcctg agtctcagcc cccagcttct gaagatttag aggttgatcc tccagttgct  
4560  
gcaaaggata aaaagccaaa caaaagcaag cgttcaaaga cccctgttca ggcagctgca  
4620  
gtgagtatcg tggagaagcc cgtcacaagg aagagtgaga ggatagaccg ggaaaaactc  
4680  
aagcgttcca attctcctcg gggagaagca cagaagcttt tggaattgaa gatggaggca  
4740  
gagaagatta caaggactgc ttctaaaaac tctgctgcag accttgaaca tcccgaacca  
4800  
agtttgctc tcagccgaac aaggcgccgg aatgtaagga gcgcttatgc aacctgggt  
4860  
gacctgaaa accgctctcc tgtcaaagag cccgttgagc aaccaagagt gaccagaaag  
4920  
agattggagc gagagcttca ggaggctgca gcggttccca ccaccctcg gagggaagag  
4980  
cctccaaaga cacgccggcg agccgatgaa gaggaggaga acgaggccaa ggaacctgca  
5040  
gaaacactca agccacctga gggatggcgg tcgccaaagg cccagaaaac tgcagctggt  
5100  
ggtggacccc aagggaaaaa gggaaaaaat gaaccgaagg tggatgctac acgtcctgag  
5160  
gccaccactg aggtggggcc ccaaataggc gtgaaagaga gctccatgga acccaaggct  
5220  
gctgaggagg aggcaggag tgaacagaaa cgtgacagaa aagatgctgg cacagacaaa  
5280  
aacccccctg aaaccgcccc tgttgaagtt gttagaaaaa aaccggcccc tgaaaaaac  
5340  
tccaaatcaa agagaggaag atctcgaaac tccaggttag cagtggacaa atctgcaagt  
5400  
ctgaaaaatg tggatgctgc tgtcagtcct aggggggctg cagcacaggc aggggagagg  
5460  
gaatctgggg tgggtggcagt ctcccctgag aaaagtgaga gtccccaaaa ggaggatggt  
5520  
ttatcatccc agttgaaaag tgatccagtt gatccagaca aggaaccaga gaaagaagac  
5580  
gtgtctgcct ctgggccgtc cccagaagcc acccagttag ccaagcagat ggagctggag  
5640  
caggccgtgg aacacatcgc aaagctcgct gaggcctctg cctctgctgc ctataaggca  
5700

gatgcaccag agggccttgc cccagaggac agggacaagc ctgcacacca agcaagtga  
5760  
acagagctgg ctgcggccat cggctccatc atcaatgaca tttctgggga gccagaaaac  
5820  
ttcccagcac ctccacctta tccctggagaa tcccagacag atctgcaacc ccccgcaggt  
5880  
gcacaggcgc tgcagccttc tgaggaagga atggagacag atgaggctgt atctggcatc  
5940  
ctggaaactg aggtctgtac agaattcttct aggcctccag tcaatgctcc tgacccctca  
6000  
gccggcccaa cagataccaa ggaagccaga ggaaatagca gtgaaacctc acactcagt  
6060  
ccagaagcca aagggtctaa agaagtggaa gtcactcttg ttcggaaaga caaagggcgc  
6120  
cagaaaacaa cccgatcacg ccgcaagcga aacacaaaca agaaagtggg ggctcctgta  
6180  
gagagccatg tccctgaatc caaccaagct caagggtgaga gtcctgctgc aaatgagggg  
6240  
acaacagtac agcaccctga agccccacag gaagaaaagc agagtggagaa accccattcc  
6300  
actcctcttc agtcatgtac ttctgacctc agcaagattc cctccacaga gaattcgtcc  
6360  
caagaaatca gtgttgagga aaggactcca accaaagcat ctgtgcccc agaccttccc  
6420  
ccacctcccc agccagcacc ggtggatgag gagcctcaag ccagggttcag ggtgcattcc  
6480  
atcattgaaa gtgaccggtg gacccccacc agcgatccaa gcatcccat acccacactg  
6540  
ccttctgtaa ctgcagcaaa gctctcacct cctgtcgcct ctggggggat cccacaccag  
6600  
agccccctta ctaagggtgac agagtggatc acaaggcagg aggagccacg ggctcagtct  
6660  
actccatctc cagctcttcc cccagacaca aaggcctctg atgttgacac cagctccagc  
6720  
accctgagga agattctcat ggacccaag tatgtgtctg ccacaagtgt cacttccaca  
6780  
agtgtcacca cagccattgc agagcctgtc agtgctgccc cttgcctaca tgaggccccg  
6840  
ccccgcagcag ttgactctaa aaagccttta gaagaaaaaa cagcacctcc agtgacaaac  
6900  
aactctgaga tacaagcctc ggaggtgctg gtagctgctg acaaggaaaa ggtggctcca  
6960  
gtcattgctc ccaaaattac ctctgttatt agccggatgc ctgtcagcat tgacctggaa  
7020  
aattcacaga agataacctt ggcaaaacca gtcctcaaa cctcactgg tctggtgagc  
7080  
gcactcactg gcctggtgaa cgtctccctg gtcccgggtga atgccctgaa aggccccgtg  
7140  
aagggtcag tgaccacact gaaaagtgtg gtgagcacc ctgctgggccc cgtgaacgtc  
7200  
ctgaaagggc ctgtgaatgt tcttacgggg ccagtgaatg ttctcaccac tccagtgaac  
7260  
gccacggtgg gcacagtga tgccgcccc ggcacagtca atgccgctgc gagtgcagtg  
7320

aatgccacag caagtgcagt gaccgtcaca gcgggtgcgg ttactgctgc atctggtggt  
7380  
gtaacggcca caacaggcac ggtgacaatg gcaggggcag tgattgcgcc gtcaacaaag  
7440  
tgcaaacaga gagcgagtgc taatgaaaac agtcggttcc acccagggtc catgcctgtg  
7500  
atcgacgatc gtccggcaga cgcgggctca ggggcggggc tgcgtgtgaa cacttctgaa  
7560  
ggggttgtgc tcctgagtta ctcagggcag aagaccgaag gcccacagcg gatcagcgcc  
7620  
aagatcagcc agatcccccc ggccagtgc aatggacattg aatttcagca gtcagtgtcc  
7680  
aagtcccagg tcaaacctga ttctgtcaca gcatcgcagc ctccatccaa aggcctcaa  
7740  
gctcctgcag gctatgcgaa cgtggccacc cattccacgt tggtagtgac cgcccagaca  
7800  
tataatgcct ctctgtgat ttcgtctgtg aaggccgata ggccatcctt ggagaagccc  
7860  
gagcccatc acctctcggg gtccacgcct gtcaccagc gaggcacagt gaagggtctc  
7920  
accagggga tcaacacacc ccctgtgtg gttcacaacc agctggctc caccccaagc  
7980  
attgtcacca caaacaagaa gcttgtgac cccgtcacc ttaaaatcga gaccaaggtc  
8040  
cttcagccgg ccaacctggg gtccacgctc acgcccacc accctctgc tctgccagc  
8100  
aaactgccta cagaagtcaa ccatgtcccc tcggggccca gcatcccagc agatcgaact  
8160  
gtctcccat tggcagctgc aaagctagat gtcattctc ctcgaccaag tggaccggg  
8220  
ccatcctcat tcccaaggc aagccacccc agcagtactg catctacggc gctctccacc  
8280  
aacgccacag tcatgtggc tgcaggcatc ccagtgcacc agttcatctc cagcatccac  
8340  
ccagagcagt ctgtcatcat gccacccac agcatcacc agactgtgtc cctgagccac  
8400  
ctctcccagg gcgaggtgag aatgaacact cccacgctgc ccagtatcac ctacagcatc  
8460  
cggccagaag cgcttcactc tcctcgggct ccgctgcagc cccagcaa at agaggtcagg  
8520  
gcccacagc gtgccagcac cccgcagcca gcccagctg gtgtgcctgc actggcctcc  
8580  
cagcacctc ccgaggagga agtgcattat caccttctg tcgctcgagc cacagccct  
8640  
gtgcagtcag aggtactagt catgcagtct gaggaccgac tgcacccta tactgtgcca  
8700  
cgggatgtga ggatcatggt gcatccacat gtgacggcag tcagcgagca gcccagggc  
8760  
gcggatggg tggatgaagg gccaccagc agcaaggccc ctgagcagc aggggaaggaa  
8820  
gctgccaaga caccagatgc caaagctgcc cccacccca cccctgccc cgtccctgtc  
8880  
cctgtcccc ttctgccc tgctctgcc cctcatggtg aggcccgat cctcacagt  
8940



acccccagta accaactcca ggggctgcct ctgacccctc ctgtggtggt gacccatggg  
9000  
gtgcagattg tgcactccag cggggagctg tttcaagagt accggtacgg cgacatcccg  
9060  
acctaccacc ccccggccca gctcacacac actcagtttc ccgcccgttc ctctgttggc  
9120  
ctgccttccc ggaccaagac agctgctcag ggccctcctc ctgaagggtga gcccctgcag  
9180  
cctcctcagc ctgtgcagtc cacacagcct gccagcctg caccaccctg cccgccctcc  
9240  
cagctcggtc agcccggcca gccaccaagc agcaagatgc ctcaagtgtc ccaggaggca  
9300  
aaggggaccc agacgggagt agagcagcct cgcctcccag ctggacctgc aaacaggcca  
9360  
cctgagcctc acaccaggt tcagagggca caagcagaaa caggcccgac ttccttcccc  
9420  
tcccctgtgt ctgtctccat gaagcctgac cttccagtct ctcttccac tcagactgcc  
9480  
ccaaaacagc cgttgtttgt cccaacaacc tctggcccca gcacccacc aggactgggt  
9540  
ctgccacaca ctgaattcca gccagcccc aaacaagatt cctctccaca cctgacttcc  
9600  
cagagacccg tggatatggt tcaacttctg aagaagtacc ccatcgtgtg gcagggcctg  
9660  
ctggccctca agaatgacac agctgctgtg cagctccact tcgtctctgg caacaacgtc  
9720  
ctggcccatc ggtecctgcc cctttctgaa ggagggcccc cactaaggat cgccagagg  
9780  
atgcggctgg aggcaacgca gctggaagg gttgcccga ggatgacgct ggcctctgcc  
9840  
tcagtggaga cagattactg tctgctgctg gctctgccct gtggcctga ccaagaggat  
9900  
gttgtagacc agaccgagtc cctcaaggct gccttcatca cttacctgca ggccaagcag  
9960  
gcggcagggg tcatcaacgt tcccaacctt ggctccaatc agcctgccta cgtgctgcag  
10020  
atcttcccgc cctgtgagtt ctctgagagt cacctgtccc gcctggcccc tgacctcctt  
10080  
gccagcatct ccaacatctc tccccacctc atgattgtca ttgcctccgt gtgagccact  
10140  
gagtggttat cacctcagtg aatcttccca gggctctgca gtaaaaacaa aggacaaccc  
10200  
agccaagcag aggaagaagc tgccgaagg gacagactcc actgccagac ggccagccgt  
10260  
ttgctgtcct gccgcccggc tcagtcggcc agacttcctc taggagtgggt gctgctacct  
10320  
tgtatgttta cataatgctt tagcccaagg acacatcacc aacccatgga ctgcagaca  
10380  
ccggggctgg gtttctcttt cctctttttg gagaaaagga acagggcagt ggaatgaaaa  
10440  
ttttttgttt gtttgttttt aagaaacaag aaaacagaac tgcccttgca cttaaattagt  
10500  
gacttggact tttgccagc gaagacaggc tgtgacactc tggatgtctt ggtgtgtgta  
10560

gacacacatt gcagactctt aacgcaggaa ggacttcaaa cttctgctga gaccttgggg  
 10620  
 tcaaggaaca tttcattggt tttttttgtc cccccccatc tcccttgctc atttggatgc  
 10680  
 gtcaccttaa ttctcctgct gccaccgtct ttgattcacc gggatgtaca gtttacagtt  
 10740  
 gaagagcaaa cagaaagggt ttctcttggt gggatatgca gaacttggga tgtgtgtata  
 10800  
 tataaatata taatatatat aaatatatat aatactgact taaaaaatca aatccccga  
 10860  
 catacgtttt ttttaatctg tgccaaaaat gtgttttcag aggaaatctt attttcatat  
 10920  
 tcagactttg tattgcccac tcatttgtat aagtgcgctt cggtacagca cgggtcctgc  
 10980  
 tcccgcgatg tggaagtgtc acacggcacc tgtacaaaaa gactggctaa cccctcttcc  
 11040  
 tattaccttg atctcttccc ccaacttctt aacacttatt aatttatgaa actgtttttc  
 11100  
 tcagcgcagt tttgttttgt gtgtccattg gattacaaac tttattaaaa aatataaaac  
 11160  
 acaccaagtg tgagtgtgat tgtcacttgg gtgggaagac gaaccatggg tccttggctt  
 11220  
 atgggaacag tcagccctca tcccgtttt gctcccatg ccaagtctgt acatgggaac  
 11280  
 tgtttccctt ctgcctccta gtcagtcagt cctcctcccc aaggataatt ttatcttgta  
 11340  
 caaaggagat ttttgtcagc gacactgaac ttaaccattt ctcactcttg tgggtgtctc  
 11400  
 agagtcctaa ctggttctta ggtaatgtgg aaggaaggca cttccaattt tgatacagaa  
 11460  
 tataaccaca ccccatgcca tctcagaaac attttagcaa gctttggttt cttgtctctc  
 11520  
 tcttgccccc tcttcccttc tcccagtgtg aagcaggctg actcctgcag aggcagtggc  
 11580  
 ctgctggagc cctgggggct catttgatcc cgtctctgcc tccagacagg agaatgggag  
 11640  
 ttggggacag gcttcccctg cagctggatt ctctagaagc  
 11680

&lt;210&gt; 4510

&lt;211&gt; 3266

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4510

Met	Gln	Ile	Glu	Val	Thr	Ala	Trp	Ile	Gly	Pro	Glu	Thr	Glu	Ser	Glu
1				5					10					15	
Asn	Glu	Phe	Arg	Pro	Leu	Asp	Glu	Arg	Ile	Asp	Glu	Phe	His	Pro	Lys
			20					25					30		
Ala	Thr	Arg	Thr	Leu	Phe	Ile	Gly	Asn	Leu	Glu	Lys	Thr	Thr	Thr	Tyr
			35				40					45			
His	Asp	Leu	Arg	Asn	Ile	Phe	Gln	Arg	Phe	Gly	Glu	Ile	Val	Asp	Ile
			50				55				60				
Asp	Ile	Lys	Lys	Val	Asn	Gly	Val	Pro	Gln	Tyr	Ala	Phe	Leu	Gln	Tyr

65					70					75						80
Cys	Asp	Ile	Ala	Ser	Val	Cys	Lys	Ala	Ile	Lys	Lys	Met	Asp	Gly	Glu	
				85					90					95		
Tyr	Leu	Gly	Asn	Asn	Arg	Leu	Lys	Leu	Gly	Phe	Gly	Lys	Ser	Met	Pro	
			100					105					110			
Thr	Asn	Cys	Val	Trp	Leu	Asp	Gly	Leu	Ser	Ser	Asn	Val	Ser	Asp	Gln	
		115					120					125				
Tyr	Leu	Thr	Arg	His	Phe	Cys	Arg	Tyr	Gly	Pro	Val	Val	Lys	Val	Val	
	130					135					140					
Phe	Asp	Arg	Leu	Lys	Gly	Met	Ala	Leu	Val	Leu	Tyr	Asn	Glu	Ile	Glu	
145					150					155					160	
Tyr	Ala	Gln	Ala	Ala	Val	Lys	Glu	Thr	Lys	Gly	Arg	Lys	Ile	Gly	Gly	
			165						170					175		
Asn	Lys	Ile	Lys	Val	Asp	Phe	Ala	Asn	Arg	Glu	Ser	Gln	Leu	Ala	Phe	
			180					185					190			
Tyr	His	Cys	Met	Glu	Lys	Ser	Gly	Gln	Asp	Ile	Arg	Asp	Phe	Tyr	Glu	
	195						200					205				
Met	Leu	Ala	Glu	Arg	Arg	Glu	Glu	Arg	Arg	Ala	Ser	Tyr	Asp	Tyr	Asn	
	210					215					220					
Gln	Asp	Arg	Thr	Tyr	Tyr	Glu	Ser	Val	Arg	Thr	Pro	Gly	Thr	Tyr	Pro	
225					230					235					240	
Glu	Asp	Ser	Arg	Arg	Asp	Tyr	Pro	Ala	Arg	Gly	Arg	Glu	Phe	Tyr	Ser	
			245						250					255		
Glu	Trp	Glu	Thr	Tyr	Gln	Gly	Asp	Tyr	Tyr	Glu	Ser	Arg	Tyr	Tyr	Asp	
			260					265					270			
Asp	Pro	Arg	Glu	Tyr	Arg	Asp	Tyr	Arg	Asn	Asp	Pro	Tyr	Glu	Gln	Asp	
	275						280					285				
Ile	Arg	Glu	Tyr	Ser	Tyr	Arg	Gln	Arg	Glu	Arg	Glu	Arg	Glu	Arg	Glu	
	290					295					300					
Arg	Phe	Glu	Ser	Asp	Arg	Asp	Arg	Asp	His	Glu	Arg	Arg	Pro	Ile	Glu	
305					310					315					320	
Arg	Ser	Gln	Ser	Pro	Val	His	Leu	Arg	Arg	Pro	Gln	Ser	Pro	Gly	Ala	
			325						330					335		
Ser	Pro	Ser	Gln	Ala	Glu	Arg	Leu	Pro	Ser	Asp	Ser	Glu	Arg	Arg	Leu	
			340					345					350			
Tyr	Ser	Arg	Ser	Ser	Asp	Arg	Ser	Gly	Ser	Cys	Ser	Ser	Leu	Ser	Pro	
		355					360					365				
Pro	Arg	Tyr	Glu	Lys	Leu	Asp	Lys	Ser	Arg	Leu	Glu	Arg	Tyr	Thr	Lys	
	370					375					380					
Asn	Glu	Lys	Thr	Asp	Lys	Glu	Arg	Thr	Phe	Asp	Pro	Glu	Arg	Val	Glu	
385					390					395					400	
Arg	Glu	Arg	Arg	Leu	Ile	Arg	Lys	Glu	Lys	Val	Glu	Lys				

[illegible]

930 935 940  
 Ala Gly Arg Phe Asp Val Ser Phe Pro Asn Ser Ile Ile Lys Arg Asp  
 945 950 955 960  
 Ser Leu Arg Lys Arg Ser Val Arg Asp Leu Glu Pro Gly Glu Val Pro  
 965 970 975  
 Ser Asp Ser Asp Glu Asp Gly Glu His Lys Ser His Ser Pro Arg Ala  
 980 985 990  
 Ser Ala Leu Tyr Glu Ser Ser Arg Leu Ser Phe Leu Leu Arg Asp Arg  
 995 1000 1005  
 Glu Asp Lys Leu Arg Glu Arg Asp Glu Arg Leu Ser Ser Ser Leu Glu  
 1010 1015 1020  
 Arg Asn Lys Phe Tyr Ser Phe Ala Leu Asp Lys Thr Ile Thr Pro Asp  
 1025 1030 1035 1040  
 Thr Lys Ala Leu Leu Glu Arg Ala Lys Ser Leu Ser Ser Ser Arg Glu  
 1045 1050 1055  
 Glu Asn Trp Ser Phe Leu Asp Trp Asp Ser Arg Phe Ala Asn Phe Arg  
 1060 1065 1070  
 Asn Asn Lys Asp Lys Glu Lys Val Asp Ser Ala Pro Arg Pro Ile Pro  
 1075 1080 1085  
 Ser Trp Tyr Met Lys Lys Lys Lys Ile Arg Thr Asp Ser Glu Gly Lys  
 1090 1095 1100  
 Met Asp Asp Lys Lys Glu Asp His Lys Glu Glu Glu Gln Glu Arg Gln  
 1105 1110 1115 1120  
 Glu Leu Phe Ala Ser Arg Phe Leu His Ser Ser Ile Phe Glu Gln Asp  
 1125 1130 1135  
 Ser Lys Arg Leu Gln His Leu Glu Arg Lys Glu Glu Asp Ser Asp Phe  
 1140 1145 1150  
 Ile Ser Gly Arg Ile Tyr Gly Lys Gln Thr Ser Glu Gly Ala Asn Ser  
 1155 1160 1165  
 Thr Thr Asp Ser Ile Gln Glu Pro Val Val Leu Phe His Ser Arg Phe  
 1170 1175 1180  
 Met Glu Leu Thr Arg Met Gln Gln Lys Lys Lys Glu Lys Asp Gln Lys  
 1185 1190 1195 1200  
 Pro Lys Glu Val Glu Lys Gln Glu Asp Thr Glu Asn His Pro Lys Thr  
 1205 1210 1215  
 Pro Glu Ser Ala Pro Glu Asn Lys Asp Ser Glu Leu Lys Thr Pro Pro  
 1220 1225 1230  
 Ser Val Gly Pro Pro Ser Val Thr Val Val Thr Leu Glu Ser Ala Pro  
 1235 1240 1245  
 Ser Ala Leu Glu Lys Thr Thr Gly Asp Lys Thr Val Glu Ala Pro Leu  
 1250 1255 1260  
 Val Thr Glu Glu Lys Thr Val Glu Pro Ala Thr Val Ser Glu Glu Ala  
 1265 1270 1275 1280  
 Lys Pro Ala Ser Glu Pro Ala Pro Ala Pro Val Glu Gln Leu Glu Gln  
 1285 1290 1295  
 Val Asp Leu Pro Pro Gly Ala Asp Pro Asp Lys Glu Ala Ala Met Met  
 1300 1305 1310  
 Pro Ala Gly Val Glu Glu Gly Ser Ser Gly Asp Gln Pro Pro Tyr Leu  
 1315 1320 1325  
 Asp Ala Lys Pro Pro Thr Pro Gly Ala Ser Phe Ser Gln Ala Glu Ser  
 1330 1335 1340  
 Asn Val Asp Pro Glu Pro Asp Ser Thr Gln Pro Leu Ser Lys Pro Ala  
 1345 1350 1355 1360  
 Gln Lys Ser Glu Glu Ala Asn Glu Pro Lys Ala Glu Lys Pro Asp Ala

1365 1370 1375  
 Thr Ala Asp Ala Glu Pro Asp Ala Asn Gln Lys Ala Glu Ala Ala Pro  
 1380 1385 1390  
 Glu Ser Gln Pro Pro Ala Ser Glu Asp Leu Glu Val Asp Pro Pro Val  
 1395 1400 1405  
 Ala Ala Lys Asp Lys Lys Pro Asn Lys Ser Lys Arg Ser Lys Thr Pro  
 1410 1415 1420  
 Val Gln Ala Ala Ala Val Ser Ile Val Glu Lys Pro Val Thr Arg Lys  
 1425 1430 1435 1440  
 Ser Glu Arg Ile Asp Arg Glu Lys Leu Lys Arg Ser Asn Ser Pro Arg  
 1445 1450 1455  
 Gly Glu Ala Gln Lys Leu Leu Glu Leu Lys Met Glu Ala Glu Lys Ile  
 1460 1465 1470  
 Thr Arg Thr Ala Ser Lys Asn Ser Ala Ala Asp Leu Glu His Pro Glu  
 1475 1480 1485  
 Pro Ser Leu Pro Leu Ser Arg Thr Arg Arg Arg Asn Val Arg Ser Val  
 1490 1495 1500  
 Tyr Ala Thr Met Gly Asp His Glu Asn Arg Ser Pro Val Lys Glu Pro  
 1505 1510 1515 1520  
 Val Glu Gln Pro Arg Val Thr Arg Lys Arg Leu Glu Arg Glu Leu Gln  
 1525 1530 1535  
 Glu Ala Ala Ala Val Pro Thr Thr Pro Arg Arg Gly Arg Pro Pro Lys  
 1540 1545 1550  
 Thr Arg Arg Arg Ala Asp Glu Glu Glu Asn Glu Ala Lys Glu Pro  
 1555 1560 1565  
 Ala Glu Thr Leu Lys Pro Pro Glu Gly Trp Arg Ser Pro Arg Ser Gln  
 1570 1575 1580  
 Lys Thr Ala Ala Gly Gly Gly Pro Gln Gly Lys Lys Gly Lys Asn Glu  
 1585 1590 1595 1600  
 Pro Lys Val Asp Ala Thr Arg Pro Glu Ala Thr Thr Glu Val Gly Pro  
 1605 1610 1615  
 Gln Ile Gly Val Lys Glu Ser Ser Met Glu Pro Lys Ala Ala Glu Glu  
 1620 1625 1630  
 Glu Ala Gly Ser Glu Gln Lys Arg Asp Arg Lys Asp Ala Gly Thr Asp  
 1635 1640 1645  
 Lys Asn Pro Pro Glu Thr Ala Pro Val Glu Val Val Glu Lys Lys Pro  
 1650 1655 1660  
 Ala Pro Glu Lys Asn Ser Lys Ser Lys Arg Gly Arg Ser Arg Asn Ser  
 1665 1670 1675 1680  
 Arg Leu Ala Val Asp Lys Ser Ala Ser Leu Lys Asn Val Asp Ala Ala  
 1685 1690 1695  
 Val Ser Pro Arg Gly Ala Ala Ala Gln Ala Gly Glu Arg Glu Ser Gly  
 1700 1705 1710  
 Val Val Ala Val Ser Pro Glu Lys Ser Glu Ser Pro Gln Lys Glu Asp  
 1715 1720 1725  
 Gly Leu Ser Ser Gln Leu Lys Ser Asp Pro Val Asp Pro Asp Lys Glu  
 1730 1735 1740  
 Pro Glu Lys Glu Asp Val Ser Ala Ser Gly Pro Ser Pro Glu Ala Thr  
 1745 1750 1755 1760  
 Gln Leu Ala Lys Gln Met Glu Leu Glu Gln Ala Val Glu His Ile Ala  
 1765 1770 1775  
 Lys Leu Ala Glu Ala Ser Ala Ser Ala Ala Tyr Lys Ala Asp Ala Pro  
 1780 1785 1790  
 Glu Gly Leu Ala Pro Glu Asp Arg Asp Lys Pro Ala His Gln Ala Ser

1795                      1800                      1805  
 Glu Thr Glu Leu Ala Ala Ala Ile Gly Ser Ile Ile Asn Asp Ile Ser  
 1810                      1815                      1820  
 Gly Glu Pro Glu Asn Phe Pro Ala Pro Pro Tyr Pro Gly Glu Ser  
 1825                      1830                      1835                      1840  
 Gln Thr Asp Leu Gln Pro Pro Ala Gly Ala Gln Ala Leu Gln Pro Ser  
 1845                      1850                      1855  
 Glu Glu Gly Met Glu Thr Asp Glu Ala Val Ser Gly Ile Leu Glu Thr  
 1860                      1865                      1870  
 Glu Ala Ala Thr Glu Ser Ser Arg Pro Pro Val Asn Ala Pro Asp Pro  
 1875                      1880                      1885  
 Ser Ala Gly Pro Thr Asp Thr Lys Glu Ala Arg Gly Asn Ser Ser Glu  
 1890                      1895                      1900  
 Thr Ser His Ser Val Pro Glu Ala Lys Gly Ser Lys Glu Val Glu Val  
 1905                      1910                      1915                      1920  
 Thr Leu Val Arg Lys Asp Lys Gly Arg Gln Lys Thr Thr Arg Ser Arg  
 1925                      1930                      1935  
 Arg Lys Arg Asn Thr Asn Lys Lys Val Val Ala Pro Val Glu Ser His  
 1940                      1945                      1950  
 Val Pro Glu Ser Asn Gln Ala Gln Gly Glu Ser Pro Ala Ala Asn Glu  
 1955                      1960                      1965  
 Gly Thr Thr Val Gln His Pro Glu Ala Pro Gln Glu Glu Lys Gln Ser  
 1970                      1975                      1980  
 Glu Lys Pro His Ser Thr Pro Pro Gln Ser Cys Thr Ser Asp Leu Ser  
 1985                      1990                      1995                      2000  
 Lys Ile Pro Ser Thr Glu Asn Ser Ser Gln Glu Ile Ser Val Glu Glu  
 2005                      2010                      2015  
 Arg Thr Pro Thr Lys Ala Ser Val Pro Pro Asp Leu Pro Pro Pro Pro  
 2020                      2025                      2030  
 Gln Pro Ala Pro Val Asp Glu Glu Pro Gln Ala Arg Phe Arg Val His  
 2035                      2040                      2045  
 Ser Ile Ile Glu Ser Asp Pro Val Thr Pro Pro Ser Asp Pro Ser Ile  
 2050                      2055                      2060  
 Pro Ile Pro Thr Leu Pro Ser Val Thr Ala Ala Lys Leu Ser Pro Pro  
 2065                      2070                      2075                      2080  
 Val Ala Ser Gly Gly Ile Pro His Gln Ser Pro Pro Thr Lys Val Thr  
 2085                      2090                      2095  
 Glu Trp Ile Thr Arg Gln Glu Glu Pro Arg Ala Gln Ser Thr Pro Ser  
 2100                      2105                      2110  
 Pro Ala Leu Pro Pro Asp Thr Lys Ala Ser Asp Val Asp Thr Ser Ser  
 2115                      2120                      2125  
 Ser Thr Leu Arg Lys Ile Leu Met Asp Pro Lys Tyr Val Ser Ala Thr  
 2130                      2135                      2140  
 Ser Val Thr Ser Thr Ser Val Thr Thr Ala Ile Ala Glu Pro Val Ser  
 2145                      2150                      2155                      2160  
 Ala Ala Pro Cys Leu His Glu Ala Pro Pro Pro Pro Val Asp Ser Lys  
 2165                      2170                      2175  
 Lys Pro Leu Glu Glu Lys Thr Ala Pro Pro Val Thr Asn Asn Ser Glu  
 2180                      2185                      2190  
 Ile Gln Ala Ser Glu Val Leu Val Ala Ala Asp Lys Glu Lys Val Ala  
 2195                      2200                      2205  
 Pro Val Ile Ala Pro Lys Ile Thr Ser Val Ile Ser Arg Met Pro Val  
 2210                      2215                      2220  
 Ser Ile Asp Leu Glu Asn Ser Gln Lys Ile Thr Leu Ala Lys Pro Ala

2225                      2230                      2235                      2240  
 Pro Gln Thr Leu Thr Gly Leu Val Ser Ala Leu Thr Gly Leu Val Asn  
                                  2245                      2250                      2255  
 Val Ser Leu Val Pro Val Asn Ala Leu Lys Gly Pro Val Lys Gly Ser  
                                  2260                      2265                      2270  
 Val Thr Thr Leu Lys Ser Leu Val Ser Thr Pro Ala Gly Pro Val Asn  
                                  2275                      2280                      2285  
 Val Leu Lys Gly Pro Val Asn Val Leu Thr Gly Pro Val Asn Val Leu  
                                  2290                      2295                      2300  
 Thr Thr Pro Val Asn Ala Thr Val Gly Thr Val Asn Ala Ala Pro Gly  
 2305                      2310                      2315                      2320  
 Thr Val Asn Ala Ala Ala Ser Ala Val Asn Ala Thr Ala Ser Ala Val  
                                  2325                      2330                      2335  
 Thr Val Thr Ala Gly Ala Val Thr Ala Ala Ser Gly Gly Val Thr Ala  
                                  2340                      2345                      2350  
 Thr Thr Gly Thr Val Thr Met Ala Gly Ala Val Ile Ala Pro Ser Thr  
                                  2355                      2360                      2365  
 Lys Cys Lys Gln Arg Ala Ser Ala Asn Glu Asn Ser Arg Phe His Pro  
                                  2370                      2375                      2380  
 Gly Ser Met Pro Val Ile Asp Asp Arg Pro Ala Asp Ala Gly Ser Gly  
 2385                      2390                      2395                      2400  
 Ala Gly Leu Arg Val Asn Thr Ser Glu Gly Val Val Leu Leu Ser Tyr  
                                  2405                      2410                      2415  
 Ser Gly Gln Lys Thr Glu Gly Pro Gln Arg Ile Ser Ala Lys Ile Ser  
                                  2420                      2425                      2430  
 Gln Ile Pro Pro Ala Ser Ala Met Asp Ile Glu Phe Gln Gln Ser Val  
                                  2435                      2440                      2445  
 Ser Lys Ser Gln Val Lys Pro Asp Ser Val Thr Ala Ser Gln Pro Pro  
                                  2450                      2455                      2460  
 Ser Lys Gly Pro Gln Ala Pro Ala Gly Tyr Ala Asn Val Ala Thr His  
 2465                      2470                      2475                      2480  
 Ser Thr Leu Val Leu Thr Ala Gln Thr Tyr Asn Ala Ser Pro Val Ile  
                                  2485                      2490                      2495  
 Ser Ser Val Lys Ala Asp Arg Pro Ser Leu Glu Lys Pro Glu Pro Ile  
                                  2500                      2505                      2510  
 His Leu Ser Val Ser Thr Pro Val Thr Gln Gly Gly Thr Val Lys Val  
                                  2515                      2520                      2525  
 Leu Thr Gln Gly Ile Asn Thr Pro Pro Val Leu Val His Asn Gln Leu  
                                  2530                      2535                      2540  
 Val Leu Thr Pro Ser Ile Val Thr Thr Asn Lys Lys Leu Ala Asp Pro  
 2545                      2550                      2555                      2560  
 Val Thr Leu Lys Ile Glu Thr Lys Val Leu Gln Pro Ala Asn Leu Gly  
                                  2565                      2570                      2575  
 Ser Thr Leu Thr Pro His His Pro Pro Ala Leu Pro Ser Lys Leu Pro  
                                  2580                      2585                      2590  
 Thr Glu Val Asn His Val Pro Ser Gly Pro Ser Ile Pro Ala Asp Arg  
                                  2595                      2600                      2605  
 Thr Val Ser His Leu Ala Ala Ala Lys Leu Asp Ala His Ser Pro Arg  
                                  2610                      2615                      2620  
 Pro Ser Gly Pro Gly Pro Ser Ser Phe Pro Arg Ala Ser His Pro Ser  
 2625                      2630                      2635                      2640  
 Ser Thr Ala Ser Thr Ala Leu Ser Thr Asn Ala Thr Val Met Leu Ala  
                                  2645                      2650                      2655  
 Ala Gly Ile Pro Val Pro Gln Phe Ile Ser Ser Ile His Pro Glu Gln



2660 2665 2670  
 Ser Val Ile Met Pro Pro His Ser Ile Thr Gln Thr Val Ser Leu Ser  
 2675 2680 2685  
 His Leu Ser Gln Gly Glu Val Arg Met Asn Thr Pro Thr Leu Pro Ser  
 2690 2695 2700  
 Ile Thr Tyr Ser Ile Arg Pro Glu Ala Leu His Ser Pro Arg Ala Pro  
 2705 2710 2715 2720  
 Leu Gln Pro Gln Gln Ile Glu Val Arg Ala Pro Gln Arg Ala Ser Thr  
 2725 2730 2735  
 Pro Gln Pro Ala Pro Ala Gly Val Pro Ala Leu Ala Ser Gln His Pro  
 2740 2745 2750  
 Pro Glu Glu Glu Val His Tyr His Leu Pro Val Ala Arg Ala Thr Ala  
 2755 2760 2765  
 Pro Val Gln Ser Glu Val Leu Val Met Gln Ser Glu Tyr Arg Leu His  
 2770 2775 2780  
 Pro Tyr Thr Val Pro Arg Asp Val Arg Ile Met Val His Pro His Val  
 2785 2790 2795 2800  
 Thr Ala Val Ser Glu Gln Pro Arg Ala Ala Asp Gly Val Val Lys Val  
 2805 2810 2815  
 Pro Pro Ala Ser Lys Ala Pro Gln Gln Pro Gly Lys Glu Ala Ala Lys  
 2820 2825 2830  
 Thr Pro Asp Ala Lys Ala Ala Pro Thr Pro Thr Pro Ala Pro Val Pro  
 2835 2840 2845  
 Val Pro Val Pro Leu Pro Ala Pro Ala Pro Ala Pro His Gly Glu Ala  
 2850 2855 2860  
 Arg Ile Leu Thr Val Thr Pro Ser Asn Gln Leu Gln Gly Leu Pro Leu  
 2865 2870 2875 2880  
 Thr Pro Pro Val Val Val Thr His Gly Val Gln Ile Val His Ser Ser  
 2885 2890 2895  
 Gly Glu Leu Phe Gln Glu Tyr Arg Tyr Gly Asp Ile Arg Thr Tyr His  
 2900 2905 2910  
 Pro Pro Ala Gln Leu Thr His Thr Gln Phe Pro Ala Ala Ser Ser Val  
 2915 2920 2925  
 Gly Leu Pro Ser Arg Thr Lys Thr Ala Ala Gln Gly Pro Pro Pro Glu  
 2930 2935 2940  
 Gly Glu Pro Leu Gln Pro Pro Gln Pro Val Gln Ser Thr Gln Pro Ala  
 2945 2950 2955 2960  
 Gln Pro Ala Pro Pro Cys Pro Pro Ser Gln Leu Gly Gln Pro Gly Gln  
 2965 2970 2975  
 Pro Pro Ser Ser Lys Met Pro Gln Val Ser Gln Glu Ala Lys Gly Thr  
 2980 2985 2990  
 Gln Thr Gly Val Glu Gln Pro Arg Leu Pro Ala Gly Pro Ala Asn Arg  
 2995 3000 3005  
 Pro Pro Glu Pro His Thr Gln Val Gln Arg Ala Gln Ala Glu Thr Gly  
 3010 3015 3020  
 Pro Thr Ser Phe Pro Ser Pro Val Ser Val Ser Met Lys Pro Asp Leu  
 3025 3030 3035 3040  
 Pro Val Ser Leu Pro Thr Gln Thr Ala Pro Lys Gln Pro Leu Phe Val  
 3045 3050 3055  
 Pro Thr Thr Ser Gly Pro Ser Thr Pro Pro Gly Leu Val Leu Pro His  
 3060 3065 3070  
 Thr Glu Phe Gln Pro Ala Pro Lys Gln Asp Ser Ser Pro His Leu Thr  
 3075 3080 3085  
 Ser Gln Arg Pro Val Asp Met Val Gln Leu Leu Lys Lys Tyr Pro Ile

3090                      3095                      3100  
 Val Trp Gln Gly Leu Leu Ala Leu Lys Asn Asp Thr Ala Ala Val Gln  
 3105                      3110                      3115                      3120  
 Leu His Phe Val Ser Gly Asn Asn Val Leu Ala His Arg Ser Leu Pro  
                     3125                      3130                      3135  
 Leu Ser Glu Gly Gly Pro Pro Leu Arg Ile Ala Gln Arg Met Arg Leu  
                     3140                      3145                      3150  
 Glu Ala Thr Gln Leu Glu Gly Val Ala Arg Arg Met Thr Leu Ala Ser  
                     3155                      3160                      3165  
 Ala Ser Val Glu Thr Asp Tyr Cys Leu Leu Leu Ala Leu Pro Cys Gly  
                     3170                      3175                      3180  
 Arg Asp Gln Glu Asp Val Val Ser Gln Thr Glu Ser Leu Lys Ala Ala  
 3185                      3190                      3195                      3200  
 Phe Ile Thr Tyr Leu Gln Ala Lys Gln Ala Ala Gly Ile Ile Asn Val  
                     3205                      3210                      3215  
 Pro Asn Pro Gly Ser Asn Gln Pro Ala Tyr Val Leu Gln Ile Phe Pro  
                     3220                      3225                      3230  
 Pro Cys Glu Phe Ser Glu Ser His Leu Ser Arg Leu Ala Pro Asp Leu  
                     3235                      3240                      3245  
 Leu Ala Ser Ile Ser Asn Ile Ser Pro His Leu Met Ile Val Ile Ala  
                     3250                      3255                      3260  
 Ser Val  
 3265

&lt;210&gt; 4511

&lt;211&gt; 1375

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4511

gctggtcgga ccaggtctct tccatcact attgaaatgc taaaagtcc agacgatgaa  
 60  
 gaagaagagg agcaaacctg tccatccaca ttcagtgaag aaatgacacc tacctcagtc  
 120  
 attcctaaat taccacagtg tctacgggag gaagaagaga aggagagcga ctctgattca  
 180  
 gaaggtccca ttcagtaccg agatgaagaa gatgaagatg aaagctatca gagtgcactc  
 240  
 gccacaag tgaagaggaa agacacactg gcaatgaagt tgaaccacag acccagtga  
 300  
 ccagagtga acctgaattc ttggccttgt aaaagcaagg aggagtggaa tgaaatacgg  
 360  
 caccagattg gaaacacact gatccggcga ctgagtcaaa gaccaacacc agaagaacta  
 420  
 gaacaacgca atatattgca acctaaaaat gaagctgatc gtcaggcaga aaaacgagaa  
 480  
 attaaacgtc ggctcactag aaagctcagt caaaggccaa ctgtcgctga actccttgcc  
 540  
 aggaagattc tgagggttaa tgaatatgta gaggtaacag atgctcaaga ttatgaccgg  
 600  
 cgagccgaca aaccttggac caaactgacc cctgctgaca aggctgccat aagaaaagaa  
 660  
 ttaaatgaat ttaaaagctc cgagatggag gttcatgaag agagcaaaca ttttacacgc  
 720

taccatcgtc catgatgcc aaggttgaga gaggaatcaa catggctgct ttgctgcttc  
 780  
 cttctccaaa gtgacatatg gaggggaactt tagcacttcc cagcacagcc agaattgcat  
 840  
 cctctgggat cttctgaggt ggacagcact ttgaatgtag catttcactg gaacagagtc  
 900  
 ttatgtgctg caccgggggc aaaacaacac tttgtcagtg cttttgaacc tttcaatatt  
 960  
 gtagcatgct tgaggagttt ttccttact ggccaccaa gttctgaacc acttgcaggt  
 1020  
 tccaggtttt actggctgca ccacaccct tcccctagat gactgcctgt gcagagacac  
 1080  
 agtttgacc attagcctta cctgccctgc cctgattgtg agaccctaat gtgtaggctc  
 1140  
 taaattccag ccatcaaata caattcctgg tggggaaaac cttctggaga cccccaacct  
 1200  
 tctgataaaa gagtctctac ctccaggga agccttctta ccacactggc atatcagatg  
 1260  
 aaagcattgc actgtacctc tcgtaacaca gcaatacagt cctcttgagg cactcaagcc  
 1320  
 tgagaggaag ctcaggatct gacatgttct tccttttct cacaagtcac catga  
 1375

&lt;210&gt; 4512

&lt;211&gt; 244

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4512

Ala	Gly	Arg	Thr	Arg	Ser	Leu	Pro	Ile	Thr	Ile	Glu	Met	Leu	Lys	Val
1				5				10					15		
Pro	Asp	Asp	Glu	Glu	Glu	Glu	Glu	Gln	Thr	Cys	Pro	Ser	Thr	Phe	Ser
			20					25					30		
Glu	Glu	Met	Thr	Pro	Thr	Ser	Val	Ile	Pro	Lys	Leu	Pro	Gln	Cys	Leu
			35				40						45		
Arg	Glu	Glu	Glu	Glu	Lys	Glu	Ser	Asp	Ser	Asp	Ser	Glu	Gly	Pro	Ile
			50				55					60			
Gln	Tyr	Arg	Asp	Glu	Glu	Asp	Glu	Asp	Glu	Ser	Tyr	Gln	Ser	Ala	Leu
65					70				75					80	
Ala	Asn	Lys	Val	Lys	Arg	Lys	Asp	Thr	Leu	Ala	Met	Lys	Leu	Asn	His
			85					90						95	
Arg	Pro	Ser	Glu	Pro	Glu	Leu	Asn	Leu	Asn	Ser	Trp	Pro	Cys	Lys	Ser
			100					105					110		
Lys	Glu	Glu	Trp	Asn	Glu	Ile	Arg	His	Gln	Ile	Gly	Asn	Thr	Leu	Ile
			115				120					125			
Arg	Arg	Leu	Ser	Gln	Arg	Pro	Thr	Pro	Glu	Glu	Leu	Glu	Gln	Arg	Asn
			130				135					140			
Ile	Leu	Gln	Pro	Lys	Asn	Glu	Ala	Asp	Arg	Gln	Ala	Glu	Lys	Arg	Glu
145					150				155					160	
Ile	Lys	Arg	Arg	Leu	Thr	Arg	Lys	Leu	Ser	Gln	Arg	Pro	Thr	Val	Ala
			165					170						175	
Glu	Leu	Leu	Ala	Arg	Lys	Ile	Leu	Arg	Phe	Asn	Glu	Tyr	Val	Glu	Val
			180					185					190		
Thr	Asp	Ala	Gln	Asp	Tyr	Asp	Arg	Arg	Ala	Asp	Lys	Pro	Trp	Thr	Lys

195	200	205
Leu Thr Pro Ala Asp Lys	Ala Ala Ile Arg Lys	Glu Leu Asn Glu Phe
210	215	220
Lys Ser Ser Glu Met Glu	Val His Glu Glu Ser	Lys His Phe Thr Arg
225	230	235
Tyr His Arg Pro		240

&lt;210&gt; 4513

&lt;211&gt; 545

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4513

```

aagctttact acacagctac agtaatggag acagcaggta ccgctctaca gcaaaagacc
60
tgcattcaccg agtccacgca cacttgccctt gcagcttcat gtcagagagc agctgagcag
120
tcagcacctg caccgggggg ttgggccctg gggcttcctt cccagtcag cctctcagct
180
cctgtctgtg gcttagcacg tgcaccacag agccaaccag atcctctgta aacttttggg
240
cttctctggc cttcacggga ctttctgtgg cagaaatcat tttcataatc atgagactct
300
tctcctcgga gtttccttcc aacagggtggg acatggatgc tgtgaactgc tcctgggaca
360
cgttctcact gggtccttcc gccttccttg tcaggtcgac cctccgcatg ccatcataca
420
gcctgggtgac catctctggg ggaagagctt ccccgacgtg gttctgtagt gccttcagag
480
agaaggattt ggatgagaca ttcgggctgt ttttatctga tgacagagca tcaaacaatt
540
gatca
545

```

&lt;210&gt; 4514

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4514

Met Val Thr Arg Leu Tyr Asp Gly Met Arg Arg Val Asp Leu Thr Gly
1 5 10 15
Lys Ala Lys Gly Pro Ser Glu Asn Val Ser Gln Glu Gln Phe Thr Ala
20 25 30
Ser Met Ser His Leu Leu Lys Gly Asn Ser Glu Glu Lys Ser Leu Met
35 40 45
Ile Met Lys Met Ile Ser Ala Thr Glu Gly Pro Val Lys Ala Arg Glu
50 55 60
Val Gln Lys Phe Thr Glu Asp Leu Val Gly Ser Val Val His Val Leu
65 70 75 80
Ser His Arg Gln Glu Leu Arg Gly Trp Thr Gly Lys Glu Ala Pro Gly
85 90 95
Pro Asn Pro Arg Val Gln Val Leu Thr Ala Gln Leu Leu Ser Asp Met

	100		105		110
Lys	Leu	Gln	Gly	Lys	Cys
		Ala	Trp	Thr	Arg
	115		120		

<210> 4515  
 <211> 3207  
 <212> DNA  
 <213> Homo sapiens

<400> 4515  
 ncaaacaacc actgggaggc actgtttccc ccccatcccg ccctgggcag ggcacgtccc  
 60  
 actccccccg cgcggttgct gggaaccgag aggccgcccc ggcgagcgcg ggagggcgcg  
 120  
 tcggaacctg gccggggccc tccaccgagc ccgtgggtccc ggtgggtgag ccccgtaggc  
 180  
 agcgagcgcc acaactttgc gatggagttt gtgcggcgcg tggggctggg cctggcgctg  
 240  
 gcgctggggc cgggggtcgc ggggggccac cctcagccgt gcggcgctcc ggcgcgcctc  
 300  
 gggggctccg tgccgctggg cgccctcctg ccccgcgcg cctcgcggcg cgcccgcgcc  
 360  
 cgcgcgcgcc tggcccgggc cgccctggcg ccgcggctgc cgcacaacct gagcttgag  
 420  
 ctggtggctg ccgcgcccc cgcccgcgac cccgcctcgc tgaccgcgcg cctgtgccag  
 480  
 gcgctgggtg ctccgggctg ggcgggccctg ctgcctttc ccgaggctcg gcccgagctg  
 540  
 ctgcagctgc acttctctgg gccggccacc gagaccccc tgctcagcct gctgcggcgg  
 600  
 gaggcgcgcg cgccctcgg agccccgaac ccattccacc tgcagctgca ctgggcccagc  
 660  
 cccctggaga cgctgctgga tgtgctggtg gcgggtgctg aggcgcacgc ctgggaagac  
 720  
 gtcggcctgg ccctgtgccc cactcaggac cccggcgccc tggtagccct ctggacaagc  
 780  
 cgggctggcc ggccccaca gctggtcctg gacctaagcc ggcgggacac gggagatgca  
 840  
 ggactgcggg cagccctggc cccgatggcg gcgccagtgg ggggtgaagc accggtaccc  
 900  
 gcggcggtcc tcctcggtg tgacatcgcc cgtgcccgtc ggggtgctgga ggccgtacct  
 960  
 cccggcccc actggctggt ggggacacca ctgccgcca aggccctgcc caccgcgggg  
 1020  
 ctgccaccag ggctgctggc gctgggagag gtggcacgac ccccgctgga ggccgccatc  
 1080  
 catgacattg tgcaactggt ggcccgggcg ctgggcagtg cggcccaggt gcagccgaag  
 1140  
 cgagccctcc tcccccccc ggtcaactgc ggggacctgc agccggccgg gcccagatcc  
 1200  
 ccggggcgct tcttggcacg gttcctggcc aacacgtcct tccagggccg caccggcccc  
 1260  
 gtgtgggtga caggcagctc ccaggtacac atgtctcggc actttaaggt gtggagcctt  
 1320

cgccgggacc cacggggcgc cccggcctgg gccacggtgg gcagctggcg gtacggccag  
1380  
ctggacttgg aaccgggagg tgccctctgca tggcccccgc ccccgaggg tgcccaggtc  
1440  
cggcccaagc tgcgtgtggt aacgctgttg gaacacccat ttgtgtttgc ccgtgatcca  
1500  
gacgaagacg ggcagtggcc agcagggcag ctgtgcctgg acccggcac caacgactcg  
1560  
gccaccctgg acgactgtt cgccgcgctg gccaacggct cagcgccccg tgccctgcgc  
1620  
aagtgtgtct acggtactg cattgacctg ctggagcggc tggcggagga cacgcccttc  
1680  
gacttcgagc tgtacctcgt ggggtgacggc aagtacggcg ccctgcggga cggccgctgg  
1740  
accggcctgg tcggggacct gctggccggc cgggcccaca tggcggtcac cagcttcagt  
1800  
atcaactccg ccgctcaca ggtggtggac ttcaccagcc ccttcttctc caccagcctg  
1860  
ggcatcatgg tgcgggcacg ggacacggcc tcaccatcg gtgcctttat gtggcccctg  
1920  
cactggtcca cgtggctggg cgtctttgcg gccctgcacc tcaccgcgt cttctcacc  
1980  
gtgtacgagt ggcgtagccc ctacggcctc acgccacgtg gccgcaaccg cagcaccgtc  
2040  
ttctctact cctcagccct caacctgtgc tacgccatcc tcttcagacg caccgtgtcc  
2100  
agcaagacgc ccaagtggcc cacgggccgc ctgctcatga acctctgggc catctttctg  
2160  
ctgctggtgc tgtccagcta cacggccaac ctggctgccg tcatggtcgg ggacaagacc  
2220  
ttcgaggagc tgtcggggat ccacgacccc aagctgcacc acccggcgca gggcttcgc  
2280  
ttcggcaccg tgtgggagag cagcgccgag gcgtacatca agaagagctt ccccgacatg  
2340  
cacgcacaca tgcggcgcca cagcgcgccc accacgcccc gcggcgctgc catgctcacg  
2400  
agcgaccccc ccaagctcaa cgcttcctc atggacaagt cgctcctgga ctacgaggtc  
2460  
tccatcgacg ccgactgcaa actgctgacc gtgggaaagc ccttcgccat tgagggctat  
2520  
gggatcggac tgccccagaa ctgcgcgctc acctccaacc tgtccgagtt catcagccgc  
2580  
tacaagtcct ccggttcat cgacctgctc cagcacaagt ggtacaagat ggtgccttgc  
2640  
ggcaagcggg tctttgcggt tacagagacc ctgcagatga gcatctacca cttcgcgggc  
2700  
ctcttcgtgt tgetgtgctt gggcctgggc agcgtctgc tcagctcgct gggcgagcac  
2760  
gcctttctcc gcctggcgct gccgcgcatc cgcaagggga gcaggctgca gtactggctg  
2820  
cacaccagcc agaaaatcca ccgcgccctc aacacggagc caccagaggg gtcgaaggag  
2880  
gagacggcag aggcggagcc caggtaagtg gtggtcgggg cggaccacga tgcaggacca  
2940

cccagaccca ccaccccacc agctcgcccc gaagccggcc gcggggtgca ggaggttccc  
 3000  
 ggaggtcccc cgccaccccc cggacgtgca caccgtggct ccctggttgt gcctgtcggc  
 3060  
 catectctgc cgtcageggc ctctgcagag gccacgggcg cgagacggct gccccggcgg  
 3120  
 aactgacca ggccggttcc gtccccagcg gccccgaggt ggagcagcag cagcagcagc  
 3180  
 aggaccagcc aacggctccg gagggct  
 3207

<210> 4516

<211> 901

<212> PRT

<213> Homo sapiens

<400> 4516

Met	Glu	Phe	Val	Arg	Ala	Leu	Trp	Leu	Gly	Leu	Ala	Leu	Ala	Leu	Gly
1				5					10					15	
Pro	Gly	Ser	Ala	Gly	Gly	His	Pro	Gln	Pro	Cys	Gly	Val	Leu	Ala	Arg
			20					25					30		
Leu	Gly	Gly	Ser	Val	Arg	Leu	Gly	Ala	Leu	Leu	Pro	Arg	Ala	Pro	Leu
		35					40					45			
Ala	Arg	Ala	Arg	Ala	Arg	Ala	Ala	Leu	Ala	Arg	Ala	Ala	Leu	Ala	Pro
		50					55				60				
Arg	Leu	Pro	His	Asn	Leu	Ser	Leu	Glu	Leu	Val	Val	Ala	Ala	Pro	Pro
65				70						75				80	
Ala	Arg	Asp	Pro	Ala	Ser	Leu	Thr	Arg	Gly	Leu	Cys	Gln	Ala	Leu	Val
			85						90					95	
Pro	Pro	Gly	Val	Ala	Ala	Leu	Leu	Ala	Phe	Pro	Glu	Ala	Arg	Pro	Glu
			100					105					110		
Leu	Leu	Gln	Leu	His	Phe	Leu	Ala	Ala	Ala	Thr	Glu	Thr	Pro	Val	Leu
		115					120					125			
Ser	Leu	Leu	Arg	Arg	Glu	Ala	Arg	Ala	Pro	Leu	Gly	Ala	Pro	Asn	Pro
		130					135				140				
Phe	His	Leu	Gln	Leu	His	Trp	Ala	Ser	Pro	Leu	Glu	Thr	Leu	Leu	Asp
145					150					155				160	
Val	Leu	Val	Ala	Val	Leu	Gln	Ala	His	Ala	Trp	Glu	Asp	Val	Gly	Leu
			165						170					175	
Ala	Leu	Cys	Arg	Thr	Gln	Asp	Pro	Gly	Gly	Leu	Val	Ala	Leu	Trp	Thr
		180						185					190		
Ser	Arg	Ala	Gly	Arg	Pro	Pro	Gln	Leu	Val	Leu	Asp	Leu	Ser	Arg	Arg
		195					200					205			
Asp	Thr	Gly	Asp	Ala	Gly	Leu	Arg	Ala	Arg	Leu	Ala	Pro	Met	Ala	Ala
		210					215					220			
Pro	Val	Gly	Gly	Glu	Ala	Pro	Val	Pro	Ala	Ala	Val	Leu	Leu	Gly	Cys
225					230					235				240	
Asp	Ile	Ala	Arg	Ala	Arg	Arg	Val	Leu	Glu	Ala	Val	Pro	Pro	Gly	Pro
			245						250					255	
His	Trp	Leu	Leu	Gly	Thr	Pro	Leu	Pro	Pro	Lys	Ala	Leu	Pro	Thr	Ala
		260						265					270		
Gly	Leu	Pro	Pro	Gly	Leu	Leu	Ala	Leu	Gly	Glu	Val	Ala	Arg	Pro	Pro
		275					280						285		
Leu	Glu	Ala	Ala	Ile	His	Asp	Ile	Val	Gln	Leu	Val	Ala	Arg	Ala	Leu

290 295 300  
 Gly Ser Ala Ala Gln Val Gln Pro Lys Arg Ala Leu Leu Pro Ala Pro  
 305 310 315 320  
 Val Asn Cys Gly Asp Leu Gln Pro Ala Gly Pro Glu Ser Pro Gly Arg  
 325 330 335  
 Phe Leu Ala Arg Phe Leu Ala Asn Thr Ser Phe Gln Gly Arg Thr Gly  
 340 345 350  
 Pro Val Trp Val Thr Gly Ser Ser Gln Val His Met Ser Arg His Phe  
 355 360 365  
 Lys Val Trp Ser Leu Arg Arg Asp Pro Arg Gly Ala Pro Ala Trp Ala  
 370 375 380  
 Thr Val Gly Ser Trp Arg Tyr Gly Gln Leu Asp Leu Glu Pro Gly Gly  
 385 390 395 400  
 Ala Ser Ala Trp Pro Pro Pro Gln Gly Ala Gln Val Arg Pro Lys  
 405 410 415  
 Leu Arg Val Val Thr Leu Leu Glu His Pro Phe Val Phe Ala Arg Asp  
 420 425 430  
 Pro Asp Glu Asp Gly Gln Cys Pro Ala Gly Gln Leu Cys Leu Asp Pro  
 435 440 445  
 Gly Thr Asn Asp Ser Ala Thr Leu Asp Ala Leu Phe Ala Ala Leu Ala  
 450 455 460  
 Asn Gly Ser Ala Pro Arg Ala Leu Arg Lys Cys Cys Tyr Gly Tyr Cys  
 465 470 475 480  
 Ile Asp Leu Leu Glu Arg Leu Ala Glu Asp Thr Pro Phe Asp Phe Glu  
 485 490 495  
 Leu Tyr Leu Val Gly Asp Gly Lys Tyr Gly Ala Leu Arg Asp Gly Arg  
 500 505 510  
 Trp Thr Gly Leu Val Gly Asp Leu Leu Ala Gly Arg Ala His Met Ala  
 515 520 525  
 Val Thr Ser Phe Ser Ile Asn Ser Ala Arg Ser Gln Val Val Asp Phe  
 530 535 540  
 Thr Ser Pro Phe Phe Ser Thr Ser Leu Gly Ile Met Val Arg Ala Arg  
 545 550 555 560  
 Asp Thr Ala Ser Pro Ile Gly Ala Phe Met Trp Pro Leu His Trp Ser  
 565 570 575  
 Thr Trp Leu Gly Val Phe Ala Ala Leu His Leu Thr Ala Leu Phe Leu  
 580 585 590  
 Thr Val Tyr Glu Trp Arg Ser Pro Tyr Gly Leu Thr Pro Arg Gly Arg  
 595 600 605  
 Asn Arg Ser Thr Val Phe Ser Tyr Ser Ser Ala Leu Asn Leu Cys Tyr  
 610 615 620  
 Ala Ile Leu Phe Arg Arg Thr Val Ser Ser Lys Thr Pro Lys Cys Pro  
 625 630 635 640  
 Thr Gly Arg Leu Leu Met Asn Leu Trp Ala Ile Phe Cys Leu Leu Val  
 645 650 655  
 Leu Ser Ser Tyr Thr Ala Asn Leu Ala Ala Val Met Val Gly Asp Lys  
 660 665 670  
 Thr Phe Glu Glu Leu Ser Gly Ile His Asp Pro Lys Leu His His Pro  
 675 680 685  
 Ala Gln Gly Phe Arg Phe Gly Thr Val Trp Glu Ser Ser Ala Glu Ala  
 690 695 700  
 Tyr Ile Lys Lys Ser Phe Pro Asp Met His Ala His Met Arg Arg His  
 705 710 715 720  
 Ser Ala Pro Thr Thr Pro Arg Gly Val Ala Met Leu Thr Ser Asp Pro



725 730 735  
 Pro Lys Leu Asn Ala Phe Ile Met Asp Lys Ser Leu Leu Asp Tyr Glu  
 740 745 750  
 Val Ser Ile Asp Ala Asp Cys Lys Leu Leu Thr Val Gly Lys Pro Phe  
 755 760 765  
 Ala Ile Glu Gly Tyr Gly Ile Gly Leu Pro Gln Asn Ser Pro Leu Thr  
 770 775 780  
 Ser Asn Leu Ser Glu Phe Ile Ser Arg Tyr Lys Ser Ser Gly Phe Ile  
 785 790 795 800  
 Asp Leu Leu His Asp Lys Trp Tyr Lys Met Val Pro Cys Gly Lys Arg  
 805 810 815  
 Val Phe Ala Val Thr Glu Thr Leu Gln Met Ser Ile Tyr His Phe Ala  
 820 825 830  
 Gly Leu Phe Val Leu Leu Cys Leu Gly Leu Gly Ser Ala Leu Leu Ser  
 835 840 845  
 Ser Leu Gly Glu His Ala Phe Arg Leu Ala Leu Pro Arg Ile Arg  
 850 855 860  
 Lys Gly Ser Arg Leu Gln Tyr Trp Leu His Thr Ser Gln Lys Ile His  
 865 870 875 880  
 Arg Ala Leu Asn Thr Glu Pro Pro Glu Gly Ser Lys Glu Glu Thr Ala  
 885 890 895  
 Glu Ala Glu Pro Arg  
 900

&lt;210&gt; 4517

&lt;211&gt; 2275

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4517

actagttcta gatcgcgagc ggagctgctg actgcattct tctctgccac tgcggatgct  
 60  
 gcctccccgt ttccagcctg taagcccgtt gtggtggtga gctccctgct gctgcaggag  
 120  
 gaggagcccc tggctggggg gaagccgggt gcgacgggtg gcagcctgga ggccgtgcgg  
 180  
 ctggggccct cgtcaggcct cctagtggac tggctggaaa tgctggaccc cgaggtggtc  
 240  
 agcagctgcc ccgacctgca gctcaggctg ctcttctccc ggaggaaggg caaaggctcag  
 300  
 gccaggtgc cctcgttccg tccctacctc ctgacctctt tcacgcatca gtccagctgg  
 360  
 cccacactgc accagtgcac ccgagtcctg ctgggcaaga gccgggaaca gaggttcgac  
 420  
 ccctctgcct ctctggactt cctctgggcc tgcattcatg ttcctcgcat ctggcagggg  
 480  
 cgggaccagc gcaccccgca gaagcggcgg gaggagctgg tgctgcgggt ccagggcccc  
 540  
 gagtcatca gcctggtgga gctgacctg gccgaggcgg agacgcggag ccaggacggg  
 600  
 gacacagccg cctgcagcct catccaggcc cggctgcccc tgctgctcag ctgctgctgt  
 660  
 ggggacgatg agagtgtcag gaaggtgacg gagcacctgt caggctgcat ccagcagtgg  
 720

ggagacagcg tgctgggagc gcgctgccga gaccttctcc tgcagctcta cctacagcgg  
780  
ccggagctgc ggggtgccgt gcctgaggtc ctactgcaca gcgaaggggc tgccagcagc  
840  
agcgtctgca agctggacgg actcatccac cgcttcatca cgctccttgc ggacaccagc  
900  
gactccccgg cgttggagaa ccgagggggc gatgccagca tggcctgccg gaagctggcg  
960  
gtggcgaccc cgctgctgct gctcaggcac ctgcccatga tcgcggcgct cctgcacggc  
1020  
cgaccccacc tcaacttcca ggagtcccg cagcagaacc acctgagctg cttcctgcac  
1080  
gtgctggggc tgctggagct gctgcagccg cacgtgttcc gcagcgagca ccagggggcg  
1140  
ctgtgggact gccttctgtc cttcatecgc ctgctgctga attacaggaa gtcctcccg  
1200  
catctggctg cttcatcaa caagtttgtg cagttcatcc ataagtacat tacctacaat  
1260  
gccccagcag ccatctcctt cctgcagaag cagccgacc cgctccacga cctgtccttc  
1320  
gacaacagtg acctggtgat gctgaaatcc ctccttgcag ggctcagcct gccagcagg  
1380  
gacgacagga ccgaccgagg cctggacgaa gagggcgagg aggagagctc agccggctcc  
1440  
ttgcccctgg tcagcgtctc cctgttcacc cctctgaccg cggccgagat ggccccctac  
1500  
atgaaacggc tttccccggg ccaaacggtg gaggggtgagt caggccctgc ttcaccacg  
1560  
ccagatctgc tggaggttct gagtacata gacgagatgt cccggcgag agccgagatc  
1620  
ctgagcttct tctcgaccaa cctgcagcgg ctgatgagct cggccgagga gtgttgccg  
1680  
aacctcgct tcagcctggc cctgcgctcc atgcagaaca gccccagcat tgcagccgt  
1740  
ttcctgccc cgttcatgta ctgcctgggc agccaggact ttgaggtggt gcagacggcc  
1800  
ctccggaacc tgctgagta cgctctctg tgccaagagc acgcggtgt gctgctccac  
1860  
cgggccttcc tgggtggcat gtacggccag atggaccca gcgcgcagat ctccgagcc  
1920  
ctgaggatcc tgcatatgga ggccgtgatg tgagcctgtg gcagccgacc cccctccaag  
1980  
ccccggccg tcccgctccc ggggatcctc gaggcaaagc ccaggaagcg tgggcgttgc  
2040  
tggtctgtcc gaggaggtga gggcgccgag ccctgaggcc aggcaggccc aggagcaata  
2100  
ctccgagccc tggggtggct ccgggcccgc cgctggcatc aggggcccgc cagcaagccc  
2160  
tcattcacct tctgggccac agccctgccg cggagcggcg gatcccccg ggcattggcct  
2220  
gggctgggtt tgaatgaaac gacctgaact gtcaaaaaaa aaaaaaaaaa aaaaa  
2275

&lt;210&gt; 4518

&lt;211&gt; 650

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4518

```

Thr Ser Ser Arg Ser Arg Ala Glu Leu Leu Thr Ala Phe Phe Ser Ala
 1           5           10           15
Thr Ala Asp Ala Ala Ser Pro Phe Pro Ala Cys Lys Pro Val Val Val
          20           25           30
Val Ser Ser Leu Leu Leu Gln Glu Glu Glu Pro Leu Ala Gly Gly Lys
          35           40           45
Pro Gly Ala Asp Gly Gly Ser Leu Glu Ala Val Arg Leu Gly Pro Ser
          50           55           60
Ser Gly Leu Leu Val Asp Trp Leu Glu Met Leu Asp Pro Glu Val Val
65           70           75           80
Ser Ser Cys Pro Asp Leu Gln Leu Arg Leu Leu Phe Ser Arg Arg Lys
          85           90           95
Gly Lys Gly Gln Ala Gln Val Pro Ser Phe Arg Pro Tyr Leu Leu Thr
          100          105          110
Leu Phe Thr His Gln Ser Ser Trp Pro Thr Leu His Gln Cys Ile Arg
          115          120          125
Val Leu Leu Gly Lys Ser Arg Glu Gln Arg Phe Asp Pro Ser Ala Ser
          130          135          140
Leu Asp Phe Leu Trp Ala Cys Ile His Val Pro Arg Ile Trp Gln Gly
145          150          155          160
Arg Asp Gln Arg Thr Pro Gln Lys Arg Arg Glu Glu Leu Val Leu Arg
          165          170          175
Val Gln Gly Pro Glu Leu Ile Ser Leu Val Glu Leu Ile Leu Ala Glu
          180          185          190
Ala Glu Thr Arg Ser Gln Asp Gly Asp Thr Ala Ala Cys Ser Leu Ile
          195          200          205
Gln Ala Arg Leu Pro Leu Leu Ser Cys Cys Gly Asp Asp Glu
          210          215          220
Ser Val Arg Lys Val Thr Glu His Leu Ser Gly Cys Ile Gln Gln Trp
225          230          235          240
Gly Asp Ser Val Leu Gly Arg Arg Cys Arg Asp Leu Leu Leu Gln Leu
          245          250          255
Tyr Leu Gln Arg Pro Glu Leu Arg Val Pro Val Pro Glu Val Leu Leu
          260          265          270
His Ser Glu Gly Ala Ala Ser Ser Ser Val Cys Lys Leu Asp Gly Leu
          275          280          285
Ile His Arg Phe Ile Thr Leu Leu Ala Asp Thr Ser Asp Ser Arg Ala
          290          295          300
Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys Arg Lys Leu Ala
305          310          315          320
Val Ala His Pro Leu Leu Leu Arg His Leu Pro Met Ile Ala Ala
          325          330          335
Leu Leu His Gly Arg Thr His Leu Asn Phe Gln Glu Phe Arg Gln Gln
          340          345          350
Asn His Leu Ser Cys Phe Leu His Val Leu Gly Leu Leu Glu Leu Leu
          355          360          365
Gln Pro His Val Phe Arg Ser Glu His Gln Gly Ala Leu Trp Asp Cys
          370          375          380
Leu Leu Ser Phe Ile Arg Leu Leu Leu Asn Tyr Arg Lys Ser Ser Arg

```

```

385          390          395          400
His Leu Ala Ala Phe Ile Asn Lys Phe Val Gln Phe Ile His Lys Tyr
          405          410          415
Ile Thr Tyr Asn Ala Pro Ala Ala Ile Ser Phe Leu Gln Lys His Ala
          420          425          430
Asp Pro Leu His Asp Leu Ser Phe Asp Asn Ser Asp Leu Val Met Leu
          435          440          445
Lys Ser Leu Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr
          450          455          460
Asp Arg Gly Leu Asp Glu Glu Gly Glu Glu Glu Ser Ser Ala Gly Ser
465          470          475          480
Leu Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
          485          490          495
Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu Gly
          500          505          510
Glu Ser Gly Pro Ala Ser Pro Thr Pro Asp Leu Leu Glu Val Leu Ser
          515          520          525
Asp Ile Asp Glu Met Ser Arg Arg Arg Pro Glu Ile Leu Ser Phe Phe
          530          535          540
Ser Thr Asn Leu Gln Arg Leu Met Ser Ser Ala Glu Glu Cys Cys Arg
545          550          555          560
Asn Leu Ala Phe Ser Leu Ala Leu Arg Ser Met Gln Asn Ser Pro Ser
          565          570          575
Ile Ala Ala Ala Phe Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln
          580          585          590
Asp Phe Glu Val Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala
          595          600          605
Leu Leu Cys Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu
          610          615          620
Val Gly Met Tyr Gly Gln Met Asp Pro Ser Ala Gln Ile Ser Glu Ala
625          630          635          640
Leu Arg Ile Leu His Met Glu Ala Val Met
          645          650

```

&lt;210&gt; 4519

&lt;211&gt; 2326

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4519

```

gacagagtgc agccttttcc tcccctaata gaaaagccat tgccctcttt tcttccccta
60
atagaaaagc cattgccctc ttttctcca cccttaagaa gacctgcac tgttggaacca
120
acagacaact atccggctta cggccagggg agcccctgca gctgcacaga accagtttct
180
tatgtatctg gcggaattg ggaaagcttc tgagaaagtc catggggccg atgtatggga
240
gatgaatgtg gtcccggagg catccaaacg agggctgtgt ggtgtgctca tgtggaggga
300
tggaactacac tgcatactaa ctgtaagcag gccgagagac ccaataacca gcagaattgt
360
ttcaaagttt gcgattggca caaagagttg tacgactgga gactgggacc ttggaatcag
420

```

tgtcagcccg tgatttcaaa aagcctagag aaacctcttg agtgcattaa gggggaagaa  
480  
ggtattcagg tgagggagat agcgtgcac cagaaagaca aagacattcc tgcggaggat  
540  
atcatctgtg agtactttga gcccaagcct ctctgggagc aggcttgccct cattccttgc  
600  
cagcaagatt gcatcgtgtc tgaattttct gcctgggtccg aatgctccaa gacctgcggc  
660  
agcgggctcc agcaccggac gcgtcatgtg gtggcgcccc cgagtttcgg aggctctggc  
720  
tgtccaaacc tgacggagtt ccaggtgtgc caatccagtc catgcgaggc cgaggagctc  
780  
aggtagagcc tgcattgtgg gccctgggagc acctgctcaa tgccccactc ccgacaagta  
840  
agacaagcaa ggagacgcgg gaagaataaa gaacgggaaa aggaccgcag caaaggagta  
900  
aaggatccag aagcccgca gcttattaag aaaaagagaa acagaaacag gcagaacaga  
960  
caagagaaca aatattggga catccagatt ggatatcaga ccagagaggt tatgtgcatt  
1020  
aacaagacgg ggaaagctgc tgatttaagc ttttgccagc aagagaagct tccaatgacc  
1080  
ttccagtcct gtgtgatcac caaagagtgc cagggttccg agtggtcaga gtggagcccc  
1140  
tgctcaaaaa catgccatga catggtgtcc cctgcaggca ctctgtgaag gacacgaacc  
1200  
atcaggcagt ttccattgg cagtgaagag gagtgtccag aatttgaaga aaaagaaccc  
1260  
tgtttgtctc aaggagatgg agttgtcccc tgtgccacgt atggctggag aactacagag  
1320  
tggactgagt gccgtgtgga ccctttgtc agtcagcagg acaagaggcg cggcaaccag  
1380  
acggccctct gtggaggggg catccagacc cgagaggtgt actgcgtgca ggccaacgaa  
1440  
aacctcctct cacaattaag taccacaag aacaaagaag cctcaaagcc aatggactta  
1500  
aaattatgca ctggacctat ccctaatact acacagctgt gccacattcc ttgtccaact  
1560  
gaatgtgaag ttccaccttg gtcagcttgg ggaccttgta cttatgaaaa ctgtaatgat  
1620  
ccgcaaggga aaaaaggctt caaactgagg aagcggcgca ttaccaatga gccactgga  
1680  
ggctctgggt taaccggaaa ctgccctcac ttactggaag ccattccctg tgaagagcct  
1740  
gcctgttatg actggaaagc ggtgagactg ggagactgcg agccagataa cggaaaggag  
1800  
tgtggtccag gcacgcaagt tcaagaggtt gtgtgcatca acagtgatgg agaagaagtt  
1860  
gacagacagc tgtgcagaga tgccatcttc cccatccctg tggcctgtga tgccccatgc  
1920  
ccgaaagact gtgtgctcag cacatggtct acgtggctct cctgctcaca cacctgctca  
1980  
gggaaaacga cagaaggga acagatacga gcacgatcca ttctggccta tgcgggtgaa  
2040

gaaggtagt cgccagcttc agacgccatc taggttcggt tcaaaagtta gtgtgcatct  
 2100  
 tttttgtgta gcctggaaaa gatgatattc tatgaaagtc aacaaccaga aattcagcca  
 2160  
 tccaagattt aatatctggt gatgtgttga gcaatttgat tctgtccccc aaaattaatc  
 2220  
 ttgaaaatgg atctctaaca aaggagaaaag acttttttaa agtgaactca ttttgctttt  
 2280  
 tcctaccacc ttaatatata tttaactctt tgctccaaaa aaaaaa  
 2326

<210> 4520

<211> 617

<212> PRT

<213> Homo sapiens

<400> 4520

Pro	Trp	Gly	Arg	Cys	Met	Gly	Asp	Glu	Cys	Gly	Pro	Gly	Gly	Ile	Gln
1				5				10						15	
Thr	Arg	Ala	Val	Trp	Cys	Ala	His	Val	Glu	Gly	Trp	Thr	Thr	Leu	His
			20					25						30	
Thr	Asn	Cys	Lys	Gln	Ala	Glu	Arg	Pro	Asn	Asn	Gln	Gln	Asn	Cys	Phe
		35					40							45	
Lys	Val	Cys	Asp	Trp	His	Lys	Glu	Leu	Tyr	Asp	Trp	Arg	Leu	Gly	Pro
	50					55					60				
Trp	Asn	Gln	Cys	Gln	Pro	Val	Ile	Ser	Lys	Ser	Leu	Glu	Lys	Pro	Leu
	65				70					75					80
Glu	Cys	Ile	Lys	Gly	Glu	Glu	Gly	Ile	Gln	Val	Arg	Glu	Ile	Ala	Cys
			85						90					95	
Ile	Gln	Lys	Asp	Lys	Asp	Ile	Pro	Ala	Glu	Asp	Ile	Ile	Cys	Glu	Tyr
			100					105						110	
Phe	Glu	Pro	Lys	Pro	Leu	Leu	Glu	Gln	Ala	Cys	Leu	Ile	Pro	Cys	Gln
			115					120						125	
Gln	Asp	Cys	Ile	Val	Ser	Glu	Phe	Ser	Ala	Trp	Ser	Glu	Cys	Ser	Lys
	130					135					140				
Thr	Cys	Gly	Ser	Gly	Leu	Gln	His	Arg	Thr	Arg	His	Val	Val	Ala	Pro
	145				150					155					160
Pro	Gln	Phe	Gly	Gly	Ser	Gly	Cys	Pro	Asn	Leu	Thr	Glu	Phe	Gln	Val
			165						170					175	
Cys	Gln	Ser	Ser	Pro	Cys	Glu	Ala	Glu	Glu	Leu	Arg	Tyr	Ser	Leu	His
			180					185					190		
Val	Gly	Pro	Trp	Ser	Thr	Cys	Ser	Met	Pro	His	Ser	Arg	Gln	Val	Arg
		195					200					205			
Gln	Ala	Arg	Arg	Arg	Gly	Lys	Asn	Lys	Glu	Arg	Glu	Lys	Asp	Arg	Ser
	210					215					220				
Lys	Gly	Val	Lys	Asp	Pro	Glu	Ala	Arg	Glu	Leu	Ile	Lys	Lys	Lys	Arg
	225				230					235					240
Asn	Arg	Asn	Arg	Gln	Asn	Arg	Gln	Glu	Asn	Lys	Tyr	Trp	Asp	Ile	Gln
			245						250					255	
Ile	Gly	Tyr	Gln	Thr	Arg	Glu	Val	Met	Cys	Ile	Asn	Lys	Thr	Gly	Lys
		260						265					270		
Ala	Ala	Asp	Leu	Ser	Phe	Cys	Gln	Gln	Glu	Lys	Leu	Pro	Met	Thr	Phe
		275					280						285		
Gln	Ser	Cys	Val	Ile	Thr	Lys	Glu	Cys	Gln	Val	Ser	Glu	Trp	Ser	Glu

290		295		300
Trp Ser Pro Cys Ser Lys Thr Cys His Asp Met Val Ser Pro Ala Gly				
305		310		315
Thr Arg Val Arg Thr Arg Thr Ile Arg Gln Phe Pro Ile Gly Ser Glu				
		325		330
Lys Glu Cys Pro Glu Phe Glu Glu Lys Glu Pro Cys Leu Ser Gln Gly				
		340		345
Asp Gly Val Val Pro Cys Ala Thr Tyr Gly Trp Arg Thr Thr Glu Trp				
		355		360
Thr Glu Cys Arg Val Asp Pro Leu Leu Ser Gln Gln Asp Lys Arg Arg				
		370		375
Gly Asn Gln Thr Ala Leu Cys Gly Gly Gly Ile Gln Thr Arg Glu Val				
385		390		395
Tyr Cys Val Gln Ala Asn Glu Asn Leu Leu Ser Gln Leu Ser Thr His				
		405		410
Lys Asn Lys Glu Ala Ser Lys Pro Met Asp Leu Lys Leu Cys Thr Gly				
		420		425
Pro Ile Pro Asn Thr Thr Gln Leu Cys His Ile Pro Cys Pro Thr Glu				
		435		440
Cys Glu Val Ser Pro Trp Ser Ala Trp Gly Pro Cys Thr Tyr Glu Asn				
		450		455
Cys Asn Asp Pro Gln Gly Lys Lys Gly Phe Lys Leu Arg Lys Arg Arg				
465		470		475
Ile Thr Asn Glu Pro Thr Gly Gly Ser Gly Leu Thr Gly Asn Cys Pro				
		485		490
His Leu Leu Glu Ala Ile Pro Cys Glu Glu Pro Ala Cys Tyr Asp Trp				
		500		505
Lys Ala Val Arg Leu Gly Asp Cys Glu Pro Asp Asn Gly Lys Glu Cys				
		515		520
Gly Pro Gly Thr Gln Val Gln Glu Val Val Cys Ile Asn Ser Asp Gly				
		530		535
Glu Glu Val Asp Arg Gln Leu Cys Arg Asp Ala Ile Phe Pro Ile Pro				
545		550		555
Val Ala Cys Asp Ala Pro Cys Pro Lys Asp Cys Val Leu Ser Thr Trp				
		565		570
Ser Thr Trp Ser Ser Cys Ser His Thr Cys Ser Gly Lys Thr Thr Glu				
		580		585
Gly Lys Gln Ile Arg Ala Arg Ser Ile Leu Ala Tyr Ala Gly Glu Glu				
		595		600
Gly Glu Ser Pro Ala Ser Asp Ala Ile				
		610		615

&lt;210&gt; 4521

&lt;211&gt; 1071

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4521

nagattccta taaaggatca tgaattagat gggtagtaga tttatccaca atgataaaga  
60

tcagaagaaa tgaaataatg ccttcaaacg actgaggaaa aataattatt aacctataat  
120

ttataccaat ataaacaatt actcaggaaa aaaagaaaat aaaaacttgc aaggggctaaa  
180

ataacttgct taccaccaa gatgcttgct ctaagaactg tgaagggatt caagaggaaa  
 240  
 agtacaccca gagagggctc atacatgtcc tctccccctc ctcctccacc accaggacac  
 300  
 acagaaactg cctcctcttt tcagccctct cccttctcag ctgactttga gctacaaata  
 360  
 tcccttctct acttggagag cccattttca ttacaggaat ttgctttgag ttttattatc  
 420  
 attttagtct atgtcttaga ttgggctgct ataacaaggt gccataggct gagcggctta  
 480  
 aacaacaaac actcatatcc cacagttaca gaggctgaga agcctggggg caaggtacca  
 540  
 gcatggctct attctgttct ggaggctggg aaatccaaga tggaagcact ggtaggtttg  
 600  
 gtgtctggga gggcttctct ctgcttccaa gatggtgcct tgctgctgca tcttccagag  
 660  
 ggaaggaatg ctgtgtcctt gcagcacaga agaaacacat ctgaaaagaa atcaagcaga  
 720  
 aaagttgaaa ataaagagat ggaatatata tatgaaaact actacatata ggaagggatg  
 780  
 tagcaaagac acagagagaa tataatttaa ggcaaaaagc ttcaatagga tttcaaagca  
 840  
 aaccttgcat actaaaaaaaa ggaaacaaaa aataaaccaa agaaaaccga aaaccatgaa  
 900  
 cttgcaggag aattttccaa agccgtaatt ataatgagag tgtttttaag tctataagaa  
 960  
 attaatatat caaacaaata aagattaata agaatttgga atttgtatga aatggcaaag  
 1020  
 gaaaagccag gcgtgggtggc ttacgcctgt aatgccagca ctttgggagg c  
 1071

<210> 4522

<211> 189

<212> PRT

<213> Homo sapiens

<400> 4522

Met	Leu	Ala	Leu	Arg	Thr	Val	Lys	Gly	Phe	Lys	Arg	Lys	Ser	Thr	Pro
1				5					10					15	
Arg	Glu	Gly	Ser	Tyr	Met	Ser	Ser	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Gly
			20					25					30		
His	Thr	Glu	Thr	Ala	Ser	Ser	Phe	Gln	Pro	Ser	Pro	Phe	Ser	Ala	Asp
		35					40					45			
Phe	Glu	Leu	Gln	Ile	Ser	Leu	Leu	Tyr	Leu	Glu	Ser	Pro	Ile	Ser	Leu
		50				55					60				
Gln	Glu	Phe	Ala	Leu	Ser	Phe	Ile	Ile	Ile	Leu	Val	Tyr	Val	Leu	Asp
65				70					75					80	
Trp	Ala	Ala	Ile	Thr	Arg	Cys	His	Arg	Leu	Ser	Gly	Leu	Asn	Asn	Lys
				85				90					95		
His	Ser	Tyr	Pro	Thr	Val	Thr	Glu	Ala	Glu	Lys	Pro	Gly	Val	Lys	Val
			100					105				110			
Pro	Ala	Trp	Ser	Asp	Ser	Val	Leu	Glu	Ala	Gly	Lys	Ser	Lys	Met	Glu
		115				120					125				
Ala	Leu	Val	Gly	Leu	Val	Ser	Gly	Arg	Ala	Ser	Leu	Cys	Phe	Gln	Asp



130		135		140	
Gly Ala Leu Ser Leu His Leu Pro Glu Gly Arg Asn Ala Val Ser Leu					
145		150		155	160
Gln His Arg Arg Asn Thr Ser Glu Lys Lys Ser Ser Arg Lys Val Glu					
	165		170		175
Asn Lys Glu Met Glu Tyr Ile Tyr Glu Asn Tyr Tyr Ile					
	180		185		

&lt;210&gt; 4523

&lt;211&gt; 1022

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4523

```

gcactgtata ttctgtctg cacacgggac tcctcagctc gcctccttgg aaaaaccaag
60
gacactccca ggctgagtct cntcttggtg attctgggcg tcatcttcat gaatggcaac
120
cgtgccagcg aggctgtcct ctgggaggca ctacgcaaga tgggactgcg ccctgggggtg
180
aggcaccat tcctcggcga tctgaggaag ctcatcacag atgactttgt gaagcagaag
240
tacctggaat acaagaagat ccccaacagc aaccacctg agtatgaatt cctctggggc
300
ctgcgagccc gccatgagac cagcaagatg agggtcctga gattcatcgc ccagaatcag
360
aaccgagacc cccgggaatg gaaggctcat ttcttgaggg ctgtggatga tgctttcaag
420
acaatggatg tggatatggc cgaggaacat gccagggccc agatgagggc ccagatgaat
480
atcggggatg aagcgctgat tggacggtg agctgggatg acatacaagt cgagctcctg
540
acctgggatg aggacggaga ttttggcgat gcctgggcca ggatccccct tgctttctgg
600
gccagatacc atcagtacat tctgaatagc aaccgtgcca acaggagggc cacgtggaga
660
gctggcgtea gcagtggcac caatggaggg gccagcacca gcgtcctaga tggccccagc
720
accagctcca ccatccggac cagaaatgct gccagagctg gcgccagctt cttctcctgg
780
atccagtagg agtttcggca ccgttgacga actgcagcga tcttactggc caagccagag
840
cgctcctct cagattcctt ctgcacacag caccctaggc ggcttcttcc tgtcagtcgg
900
aggtggcatg caagatgaag ctctctttgc tcttctgct ttcattttgt gcttttcctt
960
gtgttttcat gttttgggta tcagtgttac attaaagttg caaaattaaa aaaaaaaaaa
1020
aa
1022

```

&lt;210&gt; 4524

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4524

Ala Leu Tyr Ile Leu Val Cys Thr Arg Asp Ser Ser Ala Arg Leu Leu  
 1 5 10 15  
 Gly Lys Thr Lys Asp Thr Pro Arg Leu Ser Leu Xaa Leu Val Ile Leu  
 20 25 30  
 Gly Val Ile Phe Met Asn Gly Asn Arg Ala Ser Glu Ala Val Leu Trp  
 35 40 45  
 Glu Ala Leu Arg Lys Met Gly Leu Arg Pro Gly Val Arg His Pro Phe  
 50 55 60  
 Leu Gly Asp Leu Arg Lys Leu Ile Thr Asp Asp Phe Val Lys Gln Lys  
 65 70 75 80  
 Tyr Leu Glu Tyr Lys Lys Ile Pro Asn Ser Asn Pro Pro Glu Tyr Glu  
 85 90 95  
 Phe Leu Trp Gly Leu Arg Ala Arg His Glu Thr Ser Lys Met Arg Val  
 100 105 110  
 Leu Arg Phe Ile Ala Gln Asn Gln Asn Arg Asp Pro Arg Glu Trp Lys  
 115 120 125  
 Ala His Phe Leu Glu Ala Val Asp Asp Ala Phe Lys Thr Met Asp Val  
 130 135 140  
 Asp Met Ala Glu Glu His Ala Arg Ala Gln Met Arg Ala Gln Met Asn  
 145 150 155 160  
 Ile Gly Asp Glu Ala Leu Ile Gly Arg Trp Ser Trp Asp Asp Ile Gln  
 165 170 175  
 Val Glu Leu Leu Thr Trp Asp Glu Asp Gly Asp Phe Gly Asp Ala Trp  
 180 185 190  
 Ala Arg Ile Pro Phe Ala Phe Trp Ala Arg Tyr His Gln Tyr Ile Leu  
 195 200 205  
 Asn Ser Asn Arg Ala Asn Arg Arg Ala Thr Trp Arg Ala Gly Val Ser  
 210 215 220  
 Ser Gly Thr Asn Gly Gly Ala Ser Thr Ser Val Leu Asp Gly Pro Ser  
 225 230 235 240  
 Thr Ser Ser Thr Ile Arg Thr Arg Asn Ala Ala Arg Ala Gly Ala Ser  
 245 250 255  
 Phe Phe Ser Trp Ile Gln  
 260

&lt;210&gt; 4525

&lt;211&gt; 1731

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4525

nngaaccatg gcattctcca ggctctgacc acagaagctt atgaatggga gccacgtggt  
 60  
 gtgagtagacag aggtgggtcag agcccaagaa gaatgggaag ctgtggacac catccagcca  
 120  
 gagacagggga gccaagctag ctcagagcag cctgggcagc taatctcctt cagtgaggcc  
 180  
 ctgcagcact tccagactgt ggacctttcc cccttcaaga aaagaatcca gccaaactatt  
 240  
 cgaaggactg ggctcgccgc cctccgacac tacctcttcg ggctccaaa gctccaccag  
 300

cgccctcggg aagaaaggga cttggctctg accattgctc agtgtggcct ggatagccaa  
360  
gaccagtgatc atggccgagt cctccagacc atctataaga agctgaccgg ctccaagttt  
420  
gactgtgccc ttcattggaaa cactgggag gacctgggct ttcagggagc gaatccagcc  
480  
acagacctga gaggcgcagg ctcccttgcc ctccctgcac tgctctacct agtgatggac  
540  
tcaaagacct tgccgatggc gcaggagatt tcccgctgt ctgctacca catccagcaa  
600  
ttccctttct gtttgatgtc cgtgaacatc acccacattg ccatccaggc cttgagagag  
660  
gagtgtctct ccagagagtg taatcggcag cagaaggtea tccccgtggg gaacagcttc  
720  
tatgccgcca cattctcca cctcgcacat gtctggagga cacagcggaa gaccatctca  
780  
gactcgggct ttgtcctcaa aggtgtgctc tttcttctgg ggaggcctag gctgaatgca  
840  
cagtgtccca ggtccagaga gccaagggtg gttgctagac tggttttggc tgcagttctt  
900  
ccccatccac actttctcaa attccagctt accaaaatct ccatcaccca cccctggag  
960  
tctgctagtt ctcccttctc tgccctgact gtcgcccttt tctggtctta tacttatgac  
1020  
aagcatatat tctgatcaaa aattgggagc cagggtccaa tagttggact attcaaagtt  
1080  
gcaattgtgc agacaaggta gagtgtgtgg tccctgtggc tgtagctggc tccctagctt  
1140  
acctctctgg tgatctctcc atctgagget ccttcacttt ctctccatgg gataggggtt  
1200  
gggggtactc cctagagctg ctaggcttga ggccttgact gttgtgtcac ccagagcccc  
1260  
ctcaagcctt ctgctcccca attctctctg ttgcagagtt ggaagtattg gccagaaga  
1320  
gcccacggcg ggctgctcaa gacctggag ctgtacttgg ccagggtgtc aaaggacag  
1380  
gcctccttgt tgggagcaca gaagtgtat gggccagaag cccctccctt caaggatctc  
1440  
accttcacag gtgagagtga cctgcagtct cactcatccg aaggcgtatg gctgatctga  
1500  
cctccgagat gaatggaggc ttaaaggctg agctgcaggg gctttcaggg ggtcagtggg  
1560  
gccatgtcag gagcctggcc aggcgcacc ccttgctgtc tcagcagatg ggatatagga  
1620  
agctcctggg cttagctgtg ggaagccaag taccctcacc ggcaggggac atgaggggca  
1680  
gctagacttc accccttcc cgcagacctg cctccagagc aaggagaatt c  
1731

&lt;210&gt; 4526

&lt;211&gt; 344

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4526

Xaa Asn His Gly Ile Leu Gln Ala Leu Thr Thr Glu Ala Tyr Glu Trp  
 1 5 10 15  
 Glu Pro Arg Val Val Ser Thr Glu Val Val Arg Ala Gln Glu Glu Trp  
 20 25 30  
 Glu Ala Val Asp Thr Ile Gln Pro Glu Thr Gly Ser Gln Ala Ser Ser  
 35 40 45  
 Glu Gln Pro Gly Gln Leu Ile Ser Phe Ser Glu Ala Leu Gln His Phe  
 50 55 60  
 Gln Thr Val Asp Leu Ser Pro Phe Lys Lys Arg Ile Gln Pro Thr Ile  
 65 70 75 80  
 Arg Arg Thr Gly Leu Ala Ala Leu Arg His Tyr Leu Phe Gly Pro Pro  
 85 90 95  
 Lys Leu His Gln Arg Leu Arg Glu Glu Arg Asp Leu Val Leu Thr Ile  
 100 105 110  
 Ala Gln Cys Gly Leu Asp Ser Gln Asp Pro Val His Gly Arg Val Leu  
 115 120 125  
 Gln Thr Ile Tyr Lys Lys Leu Thr Gly Ser Lys Phe Asp Cys Ala Leu  
 130 135 140  
 His Gly Asn His Trp Glu Asp Leu Gly Phe Gln Gly Ala Asn Pro Ala  
 145 150 155 160  
 Thr Asp Leu Arg Gly Ala Gly Phe Leu Ala Leu Leu His Leu Leu Tyr  
 165 170 175  
 Leu Val Met Asp Ser Lys Thr Leu Pro Met Ala Gln Glu Ile Phe Arg  
 180 185 190  
 Leu Ser Arg His His Ile Gln Gln Phe Pro Phe Cys Leu Met Ser Val  
 195 200 205  
 Asn Ile Thr His Ile Ala Ile Gln Ala Leu Arg Glu Glu Cys Leu Ser  
 210 215 220  
 Arg Glu Cys Asn Arg Gln Gln Lys Val Ile Pro Val Val Asn Ser Phe  
 225 230 235 240  
 Tyr Ala Ala Thr Phe Leu His Leu Ala His Val Trp Arg Thr Gln Arg  
 245 250 255  
 Lys Thr Ile Ser Asp Ser Gly Phe Val Leu Lys Gly Val Leu Phe Leu  
 260 265 270  
 Leu Gly Arg Pro Arg Leu Asn Ala Gln Cys Pro Arg Ser Arg Glu Pro  
 275 280 285  
 Lys Val Val Ala Arg Leu Val Leu Ala Ala Val Leu Pro His Pro His  
 290 295 300  
 Phe Leu Lys Phe Gln Leu Thr Lys Ile Ser Ile Thr His Pro Leu Glu  
 305 310 315 320  
 Ser Ala Ser Ser Pro Phe Ser Ala Leu Thr Val Ala Leu Phe Trp Ser  
 325 330 335  
 Tyr Thr Tyr Asp Lys His Ile Phe  
 340

&lt;210&gt; 4527

&lt;211&gt; 885

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4527

nmtttttttt tttttttttt tttttttttt tttttttttt tttttttttg cagagacatg  
 60

gctgcattta ttgttcccag cccggcgaga aggtgttccc agaaagggttc cttgggtcac  
 120  
 ctgcccaccc agccttggtt ctgggtgtgc atgtccccac gggggcagga gagaggcaca  
 180  
 agtcacagtc aggcaagga gcctcagcgt cctgggcggt ggctgttggg gtccctccag  
 240  
 tcttcacctg ggacctcgg ccaggctggg acagcatcca ggaggcgagg ctgcatggtc  
 300  
 cagcgggtggg tgcaggtggc aacaggtcgg cgggctgtgc aggttccaaa aggagctctc  
 360  
 ggggttggcac tgggtgagac cagccccggg gccagcaggg gaatgagcgg tggagcaggg  
 420  
 gggtgtcggg cactgggggtg ggccccatct cctgtccttc cctcatgggt gctggaaggg  
 480  
 ccgctccct ggctcagcat catctcagat tccgggactc aaacaccgtc tcctcgtcgc  
 540  
 tgtccagcga ggccatctcc gtgggggtcct cagtgttggc gaggaggccg tatcgctcc  
 600  
 gctgaggctt cttcaacctt aacgcccga tcaggaagta gagcgcggtc aggccgcaga  
 660  
 agcccaggat cacgtagaag gagcgcgtca gcgccagcc cgacgcccc ggcggacgcg  
 720  
 tgtgcgtgct gttgtgtggc gcgcccggct ggctcccgtt cgtcacggcc ggcggcgggc  
 780  
 acaacgtgac ctggcggggg cagcggcgag cctcttcggc accgcacggc agcgccgcca  
 840  
 gcagcagcgc cagcaggagc agcagcagcg gcggctgcag cacgc  
 885

&lt;210&gt; 4528

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4528

Xaa	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe
1				5				10					15		
Cys	Arg	Asp	Met	Ala	Ala	Phe	Ile	Val	Pro	Ser	Pro	Ala	Arg	Arg	Cys
			20					25					30		
Ser	Gln	Lys	Gly	Ser	Leu	Gly	His	Leu	Pro	Thr	Gln	Pro	Trp	Leu	Trp
		35					40					45			
Ala	Ala	Met	Ser	Pro	Arg	Gly	Gln	Glu	Arg	Gly	Thr	Ser	His	Ser	Gln
		50				55					60				
Ala	Arg	Glu	Pro	Gln	Arg	Pro	Gly	Arg	Trp	Leu	Leu	Gly	Ser	Leu	Gln
65					70				75						80
Ser	Ser	Pro	Gly	Thr	Leu	Gly	Gln	Ala	Gly	Thr	Ala	Ser	Arg	Arg	Arg
				85				90					95		
Gly	Cys	Met	Val	Gln	Arg	Trp	Val	Gln	Val	Ala	Thr	Gly	Arg	Arg	Ala
			100					105					110		
Val	Gln	Val	Pro	Lys	Gly	Ala	Leu	Gly	Leu	Ala	Leu	Gly	Glu	Thr	Ser
		115					120					125			
Pro	Gly	Ala	Ser	Arg	Gly	Met	Ser	Gly	Gly	Ala	Gly	Gly	Cys	Trp	Ala
		130				135					140				
Leu	Gly	Trp	Ala	Pro	Ser	Pro	Val	Leu	Pro	Ser	Trp	Leu	Leu	Glu	Gly

```

145          150          155          160
Pro Pro Pro Trp Leu Ser Ile Ile Ser Asp Ser Gly Thr Gln Thr Pro
          165          170          175
Ser Pro Arg Arg Cys Pro Ala Arg Pro Ser Pro Trp Gly Pro Gln Cys
          180          185          190
Trp Arg Gly Gly Arg Ile Ala Ser Ala Glu Ala Ser Ser Thr
          195          200          205

```

<210> 4529  
 <211> 546  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4529
nngagagctg agaggtggaa aatggcgctg acgtgagcgc gaactcgcac tgcccagagg
60
gtggccgccc cctaagctgc agccgccgga gccgcagaaa caagaggccg agccgtgtcg
120
aagatggagg agaaaccctc agggcccatc ccggacatgc tggccactgc agagcccagc
180
tccagtgaga ccgacaagga ggtgttgtcc ccggctgtgc cagctgcagc cccctcctcc
240
tccatgtcgg aggagccagg ccctgagcag gcagccacac cgccagtggg gaacgtggag
300
gggctggagg gatgcagcag ggctcctccc cagccccaga cagctgccag tctggccccg
360
gaccagccc tggcctgacc agcatagtct ccgggaccag cgaggacctg cggcctccca
420
gacgacgcc acctccaggg aagcaaatcc cttgctccag ccctggctgc tgcctcagtt
480
tccccagcgt ccgtgacctg gcacagcatc tgcgaacca ctgccgcgcg agccctatgc
540
agtctc
546

```

<210> 4530  
 <211> 84  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4530
Met Glu Glu Lys Pro Ser Gly Pro Ile Pro Asp Met Leu Ala Thr Ala
1          5          10          15
Glu Pro Ser Ser Ser Glu Thr Asp Lys Glu Val Leu Ser Pro Ala Val
          20          25          30
Pro Ala Ala Ala Pro Ser Ser Ser Met Ser Glu Glu Pro Gly Pro Glu
          35          40          45
Gln Ala Ala Thr Pro Pro Val Gly Asn Val Glu Gly Leu Glu Gly Cys
          50          55          60
Ser Arg Ala Pro Pro Gln Pro Gln Thr Ala Ala Ser Leu Ala Pro Asp
65          70          75          80
Pro Ala Leu Ala

```

&lt;210&gt; 4531

&lt;211&gt; 1414

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4531

nncacgtggc ctccgagcag ctccagggcgc ccttgaaagt tcttggatct gcggggttatg  
60  
gccggtcctt tgcagggcgg tggggcccgg gccctggacc tactccgggg cctgccgcgt  
120  
gtgagcctgg ccaacttaaa gccgaatccc ggctccaaga aaccggagag aagaccaaga  
180  
ggtcggagaa gaggtagaaa atgtggcaga ggccataaag gagaaaggca aagaggaacc  
240  
cgcccccgct tgggctttga gggaggccag actccatttt acatccgaat cccaaaatac  
300  
gggttttaacg aaggacatag tttcagacgc cagtataagc ctttgagtct caatagactg  
360  
cagtatctta ttgatttggg tcgtgttgat cctagtcaac ctattgactt aaccagctt  
420  
gtcaatggga gaggtgtgac catccagcca cttaaaaggg attatggtgt ccagctggtt  
480  
gaggagggtg ctgacacctt tacggcaaaa gttaatatg aagtacagtt ggcttcagaa  
540  
ctagctattg ctgccattga aaaaaatggg ggtgttgta ctacagcctt ctatgatcca  
600  
agaagtctgg acattgtatg caaacctgtt ccattctttc ttcgtggaca acccattcca  
660  
aaaagaatgc ttccaccaga agaactggta ccatattaca ctgatgcaaa gaaccgtggg  
720  
tacctggcgg atcctgccaa atttcctgaa gcacgacttg aactcgccag gaagtatggt  
780  
tatatcttac ctgatatcac taaagatgaa ctcttcaaaa tgctctgtac taggaaggat  
840  
ccaaggcaga ttttctttgg tcttgctcca ggatgggtgg tgaatatggc cgataagaaa  
900  
atcctaaaac ctacagatga aaatctcctt aagtattata cctcatgaat tcccgccaa  
960  
ggaagcagag ttgttaaaga gtactggaat aggggctgaa ggatctatat tcccttattg  
1020  
cattttcctt atgtataatt ttccagatgg tgatgttact tttcagtga ctcatatgtc  
1080  
tcattttcat ctaaaattaa atggcaggaa acaaggactg catagagaaa ctgagtctgt  
1140  
gtgggttctg tctcaaagat acaaactccc tgatagtcta tggaaggaaa atgacaacta  
1200  
ttttagaata tttctagttt gttttttcag tgatcttttc atccaggcct tgttactgtt  
1260  
acagatcaga atgaaatgca caagtggaat gggattgacc tgtaggcctg ctctgccgag  
1320  
atgagagcag atggaatgag ttggtgaccc ctcttaatct gtagcctcag ggaaacacgg  
1380  
ctaccaatg ccaagatggg aaaccctcac gcgt  
1414

<210> 4532  
 <211> 296  
 <212> PRT  
 <213> Homo sapiens

<400> 4532  
 Met Ala Gly Pro Leu Gln Gly Gly Gly Ala Arg Ala Leu Asp Leu Leu  
 1 5 10 15  
 Arg Gly Leu Pro Arg Val Ser Leu Ala Asn Leu Lys Pro Asn Pro Gly  
 20 25 30  
 Ser Lys Lys Pro Glu Arg Arg Pro Arg Gly Arg Arg Arg Gly Arg Lys  
 35 40 45  
 Cys Gly Arg Gly His Lys Gly Glu Arg Gln Arg Gly Thr Arg Pro Arg  
 50 55 60  
 Leu Gly Phe Glu Gly Gly Gln Thr Pro Phe Tyr Ile Arg Ile Pro Lys  
 65 70 75 80  
 Tyr Gly Phe Asn Glu Gly His Ser Phe Arg Arg Gln Tyr Lys Pro Leu  
 85 90 95  
 Ser Leu Asn Arg Leu Gln Tyr Leu Ile Asp Leu Gly Arg Val Asp Pro  
 100 105 110  
 Ser Gln Pro Ile Asp Leu Thr Gln Leu Val Asn Gly Arg Gly Val Thr  
 115 120 125  
 Ile Gln Pro Leu Lys Arg Asp Tyr Gly Val Gln Leu Val Glu Glu Gly  
 130 135 140  
 Ala Asp Thr Phe Thr Ala Lys Val Asn Ile Glu Val Gln Leu Ala Ser  
 145 150 155 160  
 Glu Leu Ala Ile Ala Ala Ile Glu Lys Asn Gly Gly Val Val Thr Thr  
 165 170 175  
 Ala Phe Tyr Asp Pro Arg Ser Leu Asp Ile Val Cys Lys Pro Val Pro  
 180 185 190  
 Phe Phe Leu Arg Gly Gln Pro Ile Pro Lys Arg Met Leu Pro Pro Glu  
 195 200 205  
 Glu Leu Val Pro Tyr Tyr Thr Asp Ala Lys Asn Arg Gly Tyr Leu Ala  
 210 215 220  
 Asp Pro Ala Lys Phe Pro Glu Ala Arg Leu Glu Leu Ala Arg Lys Tyr  
 225 230 235 240  
 Gly Tyr Ile Leu Pro Asp Ile Thr Lys Asp Glu Leu Phe Lys Met Leu  
 245 250 255  
 Cys Thr Arg Lys Asp Pro Arg Gln Ile Phe Phe Gly Leu Ala Pro Gly  
 260 265 270  
 Trp Val Val Asn Met Ala Asp Lys Lys Ile Leu Lys Pro Thr Asp Glu  
 275 280 285  
 Asn Leu Leu Lys Tyr Tyr Thr Ser  
 290 295

<210> 4533  
 <211> 968  
 <212> DNA  
 <213> Homo sapiens

<400> 4533  
 acgcgtgccc agcacatgtg tgcacacgca gatgcaggag agaacacaca ccaccgtctc  
 60



tttgcacacg tgtgcccctg tccggacgcc ggggctgagg ccgatcgcg cgggcagcgg  
 120  
 gcgcggcggc cccgcgcagc catggactgg ctcatgggga agtccaaagc caagcccaat  
 180  
 ggcaagaagc ccgctgcgga ggagaggaag gcctacctgg agcctgagca caccaaggcc  
 240  
 aggatcaccg acttccagtt caaggagctg gtgggtgctgc cccgggagat cgacctcaac  
 300  
 gagtggctgg ccagcaacac aacaacattt ttccaccaca tcaacctgca gtatagcaca  
 360  
 atctcggagt tctgcacagg agagacgtgt cagacgatgg ccgtgtgcaa cacacagtac  
 420  
 tactggtatg acgagcgggg gaagaaggtc aagtgcacgg cccacagta cgttgacttc  
 480  
 gtcattgagct ccgtgcagaa gctggtgacg gatgaggacg tgttccccac aaaatacggc  
 540  
 agagaattcc ccagctcctt tgagtccctg gtgaggaaga tctgcagaca cctgttccac  
 600  
 gtgctggcac acatctactg ggcccacttc aaggagacgc tggccctgga gctgcacgga  
 660  
 cacttgaaca cgctctacgt ccacttcac cttttgctc gggagttaa cctgctggac  
 720  
 cccaaagaga ccgccatcat ggacgacctc accgaggtgc tatgcagcgg ggccggcggg  
 780  
 gtccacagtg ggggcagtgg ggatggggcc ggcagcgggg gcccgggagc acagaaccac  
 840  
 gtgaaggaga gatgagcccc ccgggccgga caggggcaca cgtgtgcaaa gagacggtgg  
 900  
 tgtgtgttct ctctgcac tgcgtgtgca cacatgtgct gggccctctc agacctcacc  
 960  
 acacgcgt  
 968

<210> 4534

<211> 284

<212> PRT

<213> Homo sapiens

<400> 4534

Thr	Arg	Ala	Gln	His	Met	Cys	Ala	His	Ala	Asp	Ala	Gly	Glu	Asn	Thr
1				5					10				15		
His	His	Arg	Leu	Phe	Ala	His	Val	Cys	Pro	Cys	Pro	Asp	Ala	Gly	Ala
			20					25				30			
Glu	Ala	Asp	Arg	Val	Gly	Gln	Arg	Ala	Arg	Arg	Pro	Arg	Ala	Ala	Met
			35				40				45				
Asp	Trp	Leu	Met	Gly	Lys	Ser	Lys	Ala	Lys	Pro	Asn	Gly	Lys	Lys	Pro
			50			55				60					
Ala	Ala	Glu	Glu	Arg	Lys	Ala	Tyr	Leu	Glu	Pro	Glu	His	Thr	Lys	Ala
			65			70				75				80	
Arg	Ile	Thr	Asp	Phe	Gln	Phe	Lys	Glu	Leu	Val	Val	Leu	Pro	Arg	Glu
			85					90				95			
Ile	Asp	Leu	Asn	Glu	Trp	Leu	Ala	Ser	Asn	Thr	Thr	Thr	Phe	Phe	His
			100					105				110			
His	Ile	Asn	Leu	Gln	Tyr	Ser	Thr	Ile	Ser	Glu	Phe	Cys	Thr	Gly	Glu

			115					120					125		
Thr	Cys	Gln	Thr	Met	Ala	Val	Cys	Asn	Thr	Gln	Tyr	Tyr	Trp	Tyr	Asp
	130						135				140				
Glu	Arg	Gly	Lys	Lys	Val	Lys	Cys	Thr	Ala	Pro	Gln	Tyr	Val	Asp	Phe
145					150					155					160
Val	Met	Ser	Ser	Val	Gln	Lys	Leu	Val	Thr	Asp	Glu	Asp	Val	Phe	Pro
				165					170					175	
Thr	Lys	Tyr	Gly	Arg	Glu	Phe	Pro	Ser	Ser	Phe	Glu	Ser	Leu	Val	Arg
			180					185					190		
Lys	Ile	Cys	Arg	His	Leu	Phe	His	Val	Leu	Ala	His	Ile	Tyr	Trp	Ala
		195					200				205				
His	Phe	Lys	Glu	Thr	Leu	Ala	Leu	Glu	Leu	His	Gly	His	Leu	Asn	Thr
	210					215					220				
Leu	Tyr	Val	His	Phe	Ile	Leu	Phe	Ala	Arg	Glu	Phe	Asn	Leu	Leu	Asp
225					230					235					240
Pro	Lys	Glu	Thr	Ala	Ile	Met	Asp	Asp	Leu	Thr	Glu	Val	Leu	Cys	Ser
				245					250					255	
Gly	Ala	Gly	Gly	Val	His	Ser	Gly	Gly	Ser	Gly	Asp	Gly	Ala	Gly	Ser
		260						265					270		
Gly	Gly	Pro	Gly	Ala	Gln	Asn	His	Val	Lys	Glu	Arg				
	275						280								

```
<210> 4535
<211> 473
<212> DNA
<213> Homo sapiens
```

```

<400> 4535
cgactttttt tttttttttt ttttgagatg gagtctcggt ctgtcaccca ggctggagtg
60
cagtggcatg atcacagctc actgcaacct ctgctcccca ggttcaagca gttctctngc
120
ctcagcctcc cgagtagctg ggattacagg cgtccgccac cagccccggc taatttttgt
180
attttttagta gaaacggggg ttcaccatct cggccaggct ggtcttgaac tcctgacctc
240
atgatccatc cgccttggcc tcccaaagtg ctgggattac aggcattgagc taccgcgccc
300
ggccttggtt gcagattaac gggaataacct cccttgggct tcctaggtga cactgtgata
360
ttcgggatga cctcccttgc tctattcctt ggaagaagta caggcactgg tcaagagtgc
420
ccgggaccca cattgcctgg ttttgaatcc cagcacctcc acatgttacg cgt
473

```

```
<210> 4536
<211> 75
<212> PRT
<213> Homo sapiens
```

```

<400> 4536
Arg Leu Phe Phe Phe Phe Phe Glu Met Glu Ser Arg Ser Val Thr
 1             5             10             15
Gln Ala Gly Val Gln Trp His Asp His Ser Ser Leu Gln Pro Leu Pro

```

	20		25		30										
Pro	Arg	Phe	Lys	Gln	Phe	Ser	Xaa	Leu	Ser	Leu	Pro	Ser	Ser	Trp	Asp
	35						40					45			
Tyr	Arg	Arg	Pro	Pro	Pro	Arg	Pro	Ala	Asn	Phe	Cys	Ile	Phe	Ser	Arg
	50					55					60				
Asn	Gly	Val	Ser	Pro	Ser	Arg	Pro	Gly	Trp	Ser					
65					70					75					

&lt;210&gt; 4537

&lt;211&gt; 2811

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4537

```

naagcttggc acgagggaaa tgaagcctgt gatttggact ccacagtgtc tgctcttgcc
60
ctggcttttt acctagcaaa gacaactgag gctgaggaag tctttgtgcc agttttaaat
120
ataaaacgtt ctgaactacc tctgcgaggt gacattgtct tctttcttca gaaggttcat
180
attccagaga gtatcttgat ttttcgggat gagattgacc tccatgcatt ataccaggct
240
ggccaactca ccctcatcct tgtcgaccat catatcttat ccaaaagtga cacagcccta
300
gaggagngca gtagcagagg tgctagacca tcgaccatc gagccgaaac actgccctcc
360
ctgnnccatg tttcagttga gctggtgggg tcctgtgcta ccctggtgac cgagagaatc
420
ctgcaggggg caccagagat cttggacagg caaactgcag cccttctgca tggaaccatc
480
atcctggact gtgtcaacat ggaccttaa attggaaagg caaccccaaa ggacagcaaa
540
tatgtggaga aactagaggc ctttttccca gacctacca agagaaatga tatatttgat
600
tccctacaaa aggcaaagtt tgatgtatca ggactgacca ctgagcagat gctgagaaaa
660
gaccagaaga ctatctatag acaaggcgtc aaggtggcca ttagtgcaat atatatggat
720
ttggaggcct ttctgcagag gtctaaccctc cttgcagatc tccatgcttt ctgccaggct
780
cacagctatg atgtcctggt tgccatgact atctttttca acactcacia tgagccagtg
840
cggcagttgg ctattttctg tccccatgtg gcactccaaa caacgatctg tgaagtcttg
900
gaacgtccc actctccacc cctgaagctg acccctgcct caagtacca ccctaaccctc
960
catgcctatc ttcaaggcaa caccaggctc tctcgaaaga aacttctgcc cctgctccag
1020
gaagccctgt cagcatatct tgactccatg aagatccctt caggacagcc tgagacagca
1080
gatgtgtcca gggagcaagt ggacaaggaa ttggacaggg caagtaactc cctgatttct
1140
ggactgagtc aagatgagga ggaccctccg ctgccccga cgcccatgaa cagcttggtg
1200

```

gatgagtgcc ctctagatca ggggctgcct aaactctctg ctgaggccgt cttcgagaag  
1260  
tgcagtcaga tctcactgtc acagtctacc acagcctccc tgtccaagaa gtgactgttg  
1320  
agaggcgagg aggtagtggg tgaggctacc tgactcactt caaatgcatg ttttgagatg  
1380  
tttggagatt cagcaattct gtcttcattg ctccaggatc tgggtatactg ttctcataaa  
1440  
actgagagga gaaaaaaagt gaaagaaagc agctgcttta agaatggttt tccacctttt  
1500  
ccccctaate tctaccaate agacacattt tattatttaa atctgcacct ctctctattt  
1560  
tatttgccag gggcacgatg tgacatatct gcagtcccag cacagtggga caaaaagaat  
1620  
ttagaccca aaagtgtcct cggcatggat cttgaacaga accagtatct gtcattggaac  
1680  
tgaacattca tcatgtgtct ccatgtattc atttattcac ttgttcattc aagtatttat  
1740  
tgaataacctg cctcaagcta gagagaaaag agagtgcgct ttggaaattt attccagttt  
1800  
tcagcctaca gcagattatc agctcgggtga cttttctttc tgccaccatt taggtgatgg  
1860  
tgtttgattc agagatggct gaatttctat tcttagctta ttgtgactgt ttcagatcta  
1920  
gtttgggaac agattagagg ccattgtctt ctgtcctgat cagggtggcct ggctgtttct  
1980  
ttggatccct ctgtcccaga gccaccacaga accctgactc ttgagaatca agaaaacacc  
2040  
cagaaaggcc ttaatgacct cataggcact cttccaaaaa gacaacagaa ctggaatgag  
2100  
aggcctgggt ctgtctctg ccttagcagg cctatcaatt tcttgtaaat ctcttttttt  
2160  
ccttgctcac attaaaagga agcatggagt tctaattgct ccataaacta tgtatttttg  
2220  
caagacactt cactactcca ggtctcactt tccccatctg taaaacaggg tttggactag  
2280  
gtgttccctg gtattctgtg atctgcctct tctgtccatt ctttctctcc tctgtctctc  
2340  
tgtatttttc ttctgttate cctgggggtg ctcaggttca cttgattgtc tgtatttctg  
2400  
tgtggttgta gcaaggactc agcctcatgt agcacgaata ggggtgtggt tcatggcggtg  
2460  
ttgacccagc agagcactcc ctccactaa cttgttctgc atgtgtagag tctccccatt  
2520  
ttttttaacg caacccttcc ccttttttcc taccacacag ctctgttcca tgtaagttgc  
2580  
caacagtttc actgaacagt ggggtatgtg atgggttttg catgacatct tcagtatgag  
2640  
ggggacagtt tgacttcact ttgaggggtg gatgtctgta gctatgtgga aggtaaaaat  
2700  
agtgggtgta tcatgaacca aaggaattta tgttttgtaa cttgggtact ttatttttgc  
2760  
ttttgttata ctattaaata attttttctt gttaaaaaaa aaaaaaaaaa a  
2811

&lt;210&gt; 4538

&lt;211&gt; 437

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4538

Xaa Ala Trp His Glu Gly Asn Glu Ala Cys Asp Leu Asp Ser Thr Val  
 1 5 10 15  
 Ser Ala Leu Ala Leu Ala Phe Tyr Leu Ala Lys Thr Thr Glu Ala Glu  
 20 25 30  
 Glu Val Phe Val Pro Val Leu Asn Ile Lys Arg Ser Glu Leu Pro Leu  
 35 40 45  
 Arg Gly Asp Ile Val Phe Phe Leu Gln Lys Val His Ile Pro Glu Ser  
 50 55 60  
 Ile Leu Ile Phe Arg Asp Glu Ile Asp Leu His Ala Leu Tyr Gln Ala  
 65 70 75 80  
 Gly Gln Leu Thr Leu Ile Leu Val Asp His His Ile Leu Ser Lys Ser  
 85 90 95  
 Asp Thr Ala Leu Glu Glu Xaa Ser Ser Arg Gly Ala Arg Pro Ser Thr  
 100 105 110  
 His Arg Ala Glu Thr Leu Pro Ser Leu Xaa His Val Ser Val Glu Leu  
 115 120 125  
 Val Gly Ser Cys Ala Thr Leu Val Thr Glu Arg Ile Leu Gln Gly Ala  
 130 135 140  
 Pro Glu Ile Leu Asp Arg Gln Thr Ala Ala Leu Leu His Gly Thr Ile  
 145 150 155 160  
 Ile Leu Asp Cys Val Asn Met Asp Leu Lys Ile Gly Lys Ala Thr Pro  
 165 170 175  
 Lys Asp Ser Lys Tyr Val Glu Lys Leu Glu Ala Leu Phe Pro Asp Leu  
 180 185 190  
 Pro Lys Arg Asn Asp Ile Phe Asp Ser Leu Gln Lys Ala Lys Phe Asp  
 195 200 205  
 Val Ser Gly Leu Thr Thr Glu Gln Met Leu Arg Lys Asp Gln Lys Thr  
 210 215 220  
 Ile Tyr Arg Gln Gly Val Lys Val Ala Ile Ser Ala Ile Tyr Met Asp  
 225 230 235 240  
 Leu Glu Ala Phe Leu Gln Arg Ser Asn Leu Leu Ala Asp Leu His Ala  
 245 250 255  
 Phe Cys Gln Ala His Ser Tyr Asp Val Leu Val Ala Met Thr Ile Phe  
 260 265 270  
 Phe Asn Thr His Asn Glu Pro Val Arg Gln Leu Ala Ile Phe Cys Pro  
 275 280 285  
 His Val Ala Leu Gln Thr Thr Ile Cys Glu Val Leu Glu Arg Ser His  
 290 295 300  
 Ser Pro Pro Leu Lys Leu Thr Pro Ala Ser Ser Thr His Pro Asn Leu  
 305 310 315 320  
 His Ala Tyr Leu Gln Gly Asn Thr Gln Val Ser Arg Lys Lys Leu Leu  
 325 330 335  
 Pro Leu Leu Gln Glu Ala Leu Ser Ala Tyr Phe Asp Ser Met Lys Ile  
 340 345 350  
 Pro Ser Gly Gln Pro Glu Thr Ala Asp Val Ser Arg Glu Gln Val Asp  
 355 360 365  
 Lys Glu Leu Asp Arg Ala Ser Asn Ser Leu Ile Ser Gly Leu Ser Gln

```

      370              375              380
Asp Glu Glu Asp Pro Pro Leu Pro Pro Thr Pro Met Asn Ser Leu Val
385              390              395              400
Asp Glu Cys Pro Leu Asp Gln Gly Leu Pro Lys Leu Ser Ala Glu Ala
      405              410              415
Val Phe Glu Lys Cys Ser Gln Ile Ser Leu Ser Gln Ser Thr Thr Ala
      420              425              430
Ser Leu Ser Lys Lys
      435

```

<210> 4539  
 <211> 331  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4539
gtgcacggag gaaagtctca tgagcagcct gaatgggggc tctgttcctt ctgagctgga
60
tgggctggac tccgagaaaag accagaagcc tgggggaaaa ccaaagggtta atcaatgaac
120
tcacctggaa actccagcaa gagcagaggc aggtggagga gctgaggatg cagcttcaga
180
agcagaaaag gaataactgt tcagagaaga agccgctgcc tttcctggct gcctccatca
240
agcaagaaga ggctgtctcc agctgtcctt ttgcatccca agtacctgtg aaaagacaaa
300
gcagcagctc aaagtgtcac ccaccggctt g
331

```

<210> 4540  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4540
Met Gly Ala Leu Phe Leu Leu Ser Trp Met Gly Trp Thr Pro Arg Lys
1      5      10      15
Thr Arg Ser Leu Gly Glu Asn Gln Arg Val Ile Asn Glu Leu Thr Trp
20     25     30
Lys Leu Gln Gln Glu Gln Arg Gln Val Glu Glu Leu Arg Met Gln Leu
35     40     45
Gln Lys Gln Lys Arg Asn Asn Cys Ser Glu Lys Lys Pro Leu Pro Phe
50     55     60
Leu Ala Ala Ser Ile Lys Gln Glu Glu Ala Val Ser Ser Cys Pro Phe
65     70     75     80
Ala Ser Gln Val Pro Val Lys Arg Gln Ser Ser Ser Ser Lys Cys His
85     90     95
Pro Pro Ala

```

<210> 4541  
 <211> 452  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 4541

actagtcacc tcttctatca gatgatcatc tggatcatat tcttttagat taataatggc  
 60  
 cacaggcaga tccagggatg taactgcttc agcaagaact gttgcgaatc ccttcgctgt  
 120  
 tccagtctga gaaccataaa aaatcttcac tccagacaca aagatgtctt tctcttgaag  
 180  
 ggagacataa ccatttgtca tcaaactctg agctgctttt ggaacagatt tttcctgtaa  
 240  
 gttcttgccc tgcgtcttga tgacaatctg gacacaaatc caaaggctaa tgctaacagc  
 300  
 aaagcccaaa taaatgtaaa acctgtttat ccacaatgat attaaagggtg agaagaggtc  
 360  
 ccatgtatcc gcagagggat ccatactcct cagagccgac aggagactag gatctcggac  
 420  
 ctggagagcc cgatgattcg cactgggtact gc  
 452

&lt;210&gt; 4542

&lt;211&gt; 128

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4542

Met	Asp	Pro	Ser	Ala	Asp	Thr	Trp	Asp	Leu	Phe	Ser	Pro	Leu	Ile	Ser
1				5				10					15		
Leu	Trp	Ile	Asn	Arg	Phe	Tyr	Ile	Tyr	Leu	Gly	Phe	Ala	Val	Ser	Ile
			20					25					30		
Ser	Leu	Trp	Ile	Cys	Val	Gln	Ile	Val	Ile	Lys	Thr	Gln	Gly	Lys	Asn
			35					40					45		
Leu	Gln	Glu	Lys	Ser	Val	Pro	Lys	Ala	Ala	Gln	Asp	Leu	Met	Thr	Asn
			50					55				60			
Gly	Tyr	Val	Ser	Leu	Gln	Glu	Lys	Asp	Ile	Phe	Val	Ser	Gly	Val	Lys
			65					70				75			80
Ile	Phe	Tyr	Gly	Ser	Gln	Thr	Gly	Thr	Ala	Lys	Gly	Phe	Ala	Thr	Val
			85					90						95	
Leu	Ala	Glu	Ala	Val	Thr	Ser	Leu	Asp	Leu	Pro	Val	Ala	Ile	Ile	Asn
			100					105					110		
Leu	Lys	Glu	Tyr	Asp	Pro	Asp	Asp	His	Leu	Ile	Glu	Glu	Val	Thr	Ser
			115					120					125		

&lt;210&gt; 4543

&lt;211&gt; 815

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4543

cggccgcccga ggactggcct gactcggaca tttcactctg tggacactaa ggccaaacac  
 60  
 agggaggagg gagagcgagt cactgcaggt ccctggcctg cggctccgcc gtggctgcct  
 120  
 gaggccccgc gcaccaatgc tttgcacttt gcctcgcccg acaccctgcg ggccagagct  
 180

cctctgccgc ccaccgggct aacccttccg ggccctacca ctcccagagt gctctgctta  
 240  
 tccggccact gactccggct cctcggaagc agggccaccc tcctgaaatg gcttggaacg  
 300  
 gggctttcca ctggtgccct cccagacga ttgcttgtaa tgggccagtg cctcgccagg  
 360  
 gacacagcgg cagccccctg tagcttgtgg ctgttcagaa acaagtccag cccaggtagg  
 420  
 gcagagggct ctgactgggg acccaagaag ggctggctgt gccgccaccg ctgccccgtc  
 480  
 accatcactg tgctgaagag ctcgaggctg ggcccaccg cgccggcccc acgttcctcc  
 540  
 cggggtcag gtcagggcca gggagtgacc agaagggtgct gaccctgtgg cctgactggc  
 600  
 ccagagctca cccctgaaca tgagcaagcg caaagaaacc cccatccctg ctcccaaaaa  
 660  
 agggcgcccc caaggccatt ttgaagggtg ggggaagccc ggattccgag aaaccgcaac  
 720  
 cagccgtcta cctcaggaag ctcgctaggg aggagcgcat tctatgtgac taatgcggac  
 780  
 tggcctgcac cgcctacgga gagaagacaa cgcgt  
 815

&lt;210&gt; 4544

&lt;211&gt; 150

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4544

Met	Val	Thr	Gly	Gln	Arg	Trp	Arg	His	Ser	Gln	Pro	Phe	Leu	Gly	Pro
1				5					10					15	
Gln	Ser	Glu	Pro	Ser	Ala	Leu	Pro	Gly	Leu	Asp	Leu	Phe	Leu	Asn	Ser
			20					25					30		
His	Lys	Leu	Gln	Gly	Ala	Ala	Ala	Val	Ser	Leu	Ala	Arg	His	Trp	Pro
		35				40						45			
Ile	Thr	Ser	Asn	Arg	Leu	Gly	Arg	Ala	Pro	Val	Glu	Ser	Pro	Val	Pro
	50					55					60				
Ser	His	Phe	Arg	Arg	Val	Ala	Leu	Leu	Pro	Arg	Ser	Arg	Ser	Gln	Trp
65					70					75				80	
Pro	Asp	Lys	Gln	Ser	His	Ser	Gly	Val	Val	Arg	Pro	Gly	Arg	Val	Ser
				85					90					95	
Pro	Val	Gly	Gly	Arg	Gly	Ala	Leu	Ala	Arg	Arg	Val	Ser	Gly	Glu	Ala
			100					105					110		
Lys	Cys	Lys	Ala	Leu	Val	Arg	Gly	Ala	Ser	Gly	Ser	His	Gly	Gly	Ala
		115					120					125			
Ala	Gly	Gln	Gly	Pro	Ala	Val	Thr	Arg	Ser	Pro	Ser	Ser	Leu	Cys	Leu
		130				135						140			
Ala	Leu	Val	Ser	Thr	Gly										
145					150										

&lt;210&gt; 4545

&lt;211&gt; 3568

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



&lt;400&gt; 4545

nntgtacaag ctttagtagg tggttatatt ggtggacttg tccccaatt aaagtatgat  
60  
tcaaagagtc agtcagaaga acaggaagag cctgctaaaa ctgacaggc tgtcagcaaa  
120  
gacagaaatg cagaggagaa aaagcgttta tctcttcagc gagaaaagat tatcgcaagg  
180  
gtgagtattg ataacaggac ccgggcatta gttcaggcat taagaagaac aactgaccca  
240  
aagctctgca ttactagggg tgaagaactg acttttcatc ttctagaatt tcctgaagga  
300  
aaaggagtgg ctgtcaagga aagaattatt ccatatttat tacgactgag acaaattaag  
360  
gatgaaactc ttcaggctgc agttagagaa attttgccc taattggcta tgtggatcca  
420  
gtgaaagga gaggaatccg aattctctca attgatggtg gaggaacaag ggcgtgggt  
480  
gctctccaga ccctacgaaa attagttgaa cttactcaga agccagttca tcagctcttt  
540  
gattacattt gtggtgtaag cacaggtgcc atattagctt tcatgttggg gttgtttcat  
600  
atgcccttgg atgaatgtga ggaactttat cgaaaattag gatcagatgt attttcacaa  
660  
aatgtcattg ttggaacagt aaaaatgagt tggagccatg cattttatga cagtcaaaca  
720  
tgggaaaaca ttcttaagga taggatggga tctgcactga tgattgaaac agcaagaaac  
780  
cccacatgtc ctaaggtagc tgctgtaagt accatagtaa atagagggat aacacccaaa  
840  
gcttttgtgt tcagaaacta tggtcatttt cctggaatca actctcatta tttgggaggc  
900  
tgtcagtata aaatgtggca ggccattaga gcctcatctg ctgtccagg ctactttgca  
960  
gaatatgcat tgggaaatga tttcatcaa gatggagggt tgcttctgaa taacccttcg  
1020  
gcattagcta tgcagagtg taaatgtctt tggccagatg tgccgttaga gtgcatagta  
1080  
tccctgggca ctggacgtta tgagagtgat gtgagaaaca cggtaacata cacaagcttg  
1140  
aaaactaaac tttctaagt tatcaacagt gctacagata cagaagaagt ccatataatg  
1200  
cttgatggc tgttacctcc tgacacctat tttagattca atcctgtaat gtgtgaaaac  
1260  
atacctctag atgaaagtcg aaatgaaaag ctggatcagc tgcagttgga agggttgaaa  
1320  
tacatagaaa gaaatgaaca aaaaatgaaa aaagttgcaa aaatattaag tcaagaaaaa  
1380  
acaactctgc agaaaattaa tgattggata aaattaaaaa ctgatatgta tgaaggactt  
1440  
ccattctttt caaaattgtg atgagtatat gcttatgttc tcataaatga aggtctgttt  
1500  
agaagatcaa ccacattcaa taaggaattg tggggttcga catgagttaa ctttgaaata  
1560

cgtatgaatt ctggagaatc ctgaaaaaga cgggtgcttca accagcttgc atagcacaga  
1620  
gaatattctt gggttacagaa ttcatatggg aactaggctt ttaagatggt aataattagc  
1680  
taagcttttag taacccttac tgtgctagta gatttttagta gatattggtg ttatattggt  
1740  
tgatgtttga aaatatatta atatatgtgc cgaacaagaa accgaaagct atattgtact  
1800  
gtgtattttt acttttagtcc tcataatcat gttgaattta tgtgatcatt gattttattt  
1860  
catatggaaa agctaatttc ttcttaaatt tacattacct aatattctca ctagctatgt  
1920  
tctccaatcc aactgcctt ttattgtaat atcatctaaa tagatgcaga aaaatggaat  
1980  
tttctctatt aaagtatttt acatttgaca taaaaaagaa ccagatacag ttttctattc  
2040  
agatatgttt attttaacat tgtttgggta aaaaagggtga agttccagtc aaccactttt  
2100  
tacccttgaa atttcaagat aatgctatat taacttttcc agatctaacc ctagcttata  
2160  
cttccctggt ataaaatggg ttgaacttac tgaggagata ttcccatcat taacaaaaat  
2220  
aaactattta aataaaaaag gatagagggt caacatattt agtcattatg gaagtgcгаа  
2280  
tcaaagtcat atgccacttc acaccaacca catttgtcaa aataaaaaaa aaaaaacagg  
2340  
aaataggaat tgttgataag aatgtggagg tattggaacc cctgtacatt gctggtgaga  
2400  
atgtaaaatg gtggtgctac cacagaaaac acattggctc tttgttaaaa tgtaaacata  
2460  
aaatttcctt acaagtcagt atgagtactt cttaattgta tacctgagat aactgaaaac  
2520  
atatgttttt taaaataact tttgtccaga tgttcatagc atcatttttt actgtagttg  
2580  
aaaaatggaa acaaactaaa tgtccatcac ctactaaata aaatgtggca tagccatata  
2640  
atggaatatt gtaaactctgt gaaaatgaat gaacaaatta cataagggat taacctcaaa  
2700  
aacattatac taagtgaaag aagccagata caaaaggcca atattgtatg attctatttt  
2760  
tgtgaagtgc ccagaatagg caattttata tggaaaagaa gcagagtagt gggttccagg  
2820  
ggctgagtga gggaaaatgg ggaataacca cttaatgtgt acagagtttc tttttaggat  
2880  
gatgaaaatg ttctagaatc agtggtaatg gtaataaaac attgggaata tactaaaagc  
2940  
cactgaattg taccctttaa gatgggttaa atgggttaatt ttatgttatg taaacattat  
3000  
ttctctaata aagtagattt tcagcaacaa agggccatt agaatggaag catactctga  
3060  
agggttatta gttatcaact cctaacatgc aaaatatttt taggtagcat ttttatatag  
3120  
aagaaattat attcaggcat attaagcatt gagtgtcatt attattgatg tataatggat  
3180

tcccatccaa cattatggtg tgattttaaa agaagagcca ggaaatcaaa agtattttct  
 3240  
 ctggggctta atctttgatc agatcattga aaaacttatg gcttccagat ttgtggggga  
 3300  
 cagatacttt tactcattat ccaatgctct aaggccaccc agagagactg gattatctac  
 3360  
 attgactatt cacatttcct tagatatatt tatttgaatg atggcttcta caaagtagag  
 3420  
 aagtctgtca ttatgagaga taaagccagc tgggcttctg gggtgggtgg ggtcttgag  
 3480  
 aacttttctg tctagctaaa ggattgtaag tgcacccatc agcactctgt aaaaacacac  
 3540  
 caatcagcac tctgtgtcta gctaaagg  
 3568

<210> 4546

<211> 380

<212> PRT

<213> Homo sapiens

<400> 4546

Glu	Arg	Ile	Ile	Pro	Tyr	Leu	Leu	Arg	Leu	Arg	Gln	Ile	Lys	Asp	Glu
1				5					10					15	
Thr	Leu	Gln	Ala	Ala	Val	Arg	Glu	Ile	Leu	Ala	Leu	Ile	Gly	Tyr	Val
			20					25					30		
Asp	Pro	Val	Lys	Gly	Arg	Gly	Ile	Arg	Ile	Leu	Ser	Ile	Asp	Gly	Gly
		35					40					45			
Gly	Thr	Arg	Gly	Val	Val	Ala	Leu	Gln	Thr	Leu	Arg	Lys	Leu	Val	Glu
	50					55				60					
Leu	Thr	Gln	Lys	Pro	Val	His	Gln	Leu	Phe	Asp	Tyr	Ile	Cys	Gly	Val
65					70				75					80	
Ser	Thr	Gly	Ala	Ile	Leu	Ala	Phe	Met	Leu	Gly	Leu	Phe	His	Met	Pro
			85					90					95		
Leu	Asp	Glu	Cys	Glu	Glu	Leu	Tyr	Arg	Lys	Leu	Gly	Ser	Asp	Val	Phe
		100						105					110		
Ser	Gln	Asn	Val	Ile	Val	Gly	Thr	Val	Lys	Met	Ser	Trp	Ser	His	Ala
	115						120					125			
Phe	Tyr	Asp	Ser	Gln	Thr	Trp	Glu	Asn	Ile	Leu	Lys	Asp	Arg	Met	Gly
	130					135					140				
Ser	Ala	Leu	Met	Ile	Glu	Thr	Ala	Arg	Asn	Pro	Thr	Cys	Pro	Lys	Val
145					150				155					160	
Ala	Ala	Val	Ser	Thr	Ile	Val	Asn	Arg	Gly	Ile	Thr	Pro	Lys	Ala	Phe
			165						170					175	
Val	Phe	Arg	Asn	Tyr	Gly	His	Phe	Pro	Gly	Ile	Asn	Ser	His	Tyr	Leu
		180						185				190			
Gly	Gly	Cys	Gln	Tyr	Lys	Met	Trp	Gln	Ala	Ile	Arg	Ala	Ser	Ser	Ala
	195					200					205				
Ala	Pro	Gly	Tyr	Phe	Ala	Glu	Tyr	Ala	Leu	Gly	Asn	Asp	Leu	His	Gln
	210					215					220				
Asp	Gly	Gly	Leu	Leu	Leu	Asn	Asn	Pro	Ser	Ala	Leu	Ala	Met	His	Glu
225					230					235				240	
Cys	Lys	Cys	Leu	Trp	Pro	Asp	Val	Pro	Leu	Glu	Cys	Ile	Val	Ser	Leu
			245						250				255		
Gly	Thr	Gly	Arg	Tyr	Glu	Ser	Asp	Val	Arg	Asn	Thr	Val	Thr	Tyr	Thr

260						265						270					
Ser	Leu	Lys	Thr	Lys	Leu	Ser	Asn	Val	Ile	Asn	Ser	Ala	Thr	Asp	Thr		
275						280						285					
Glu	Glu	Val	His	Ile	Met	Leu	Asp	Gly	Leu	Leu	Pro	Pro	Asp	Thr	Tyr		
290						295						300					
Phe	Arg	Phe	Asn	Pro	Val	Met	Cys	Glu	Asn	Ile	Pro	Leu	Asp	Glu	Ser		
305						310						315					
Arg	Asn	Glu	Lys	Leu	Asp	Gln	Leu	Gln	Leu	Glu	Gly	Leu	Lys	Tyr	Ile		
325						330						335					
Glu	Arg	Asn	Glu	Gln	Lys	Met	Lys	Lys	Val	Ala	Lys	Ile	Leu	Ser	Gln		
340						345						350					
Glu	Lys	Thr	Thr	Leu	Gln	Lys	Ile	Asn	Asp	Trp	Ile	Lys	Leu	Lys	Thr		
355						360						365					
Asp	Met	Tyr	Glu	Gly	Leu	Pro	Phe	Phe	Ser	Lys	Leu						
370						375						380					

```
<210> 4547
<211> 2211
<212> DNA
<213> Homo sapiens
```

```

<400> 4547
ngtttcattc tcttgttctt ctacagtgga gacagattcc tctgaactta tgtctggttc
60
tggcttttct tcctccctt cagcaagctt gcttttggga ggagtttccc gggtagaatt
120
cacagttcga cgaatcggca tggtgctatc ttctaccttc tctgagctcg gcggctggga
180
ctggaggaca gcggtggcgg aggcgactag cggcgggcgg agcggcgccg agaggccgtg
240
cgggacgcgg gcgccaggac cggccgaacg cagagggtga ttcttcacca cactgaaacc
300
attaggaaaa atccttggtg ttaacagcag aggccttcaga gtgtaacctg tactcgggcc
360
tagaaattat ttaaaatggc gactgatacg tctcaagggtg aactcgtcca tcctaaggca
420
ctcccaactta tagtaggagc tcagctgatc cacgcggaca agttaggtga gaaggtagaa
480
gatagcacca tgccgattcg tcgaactgtg aattctaccc gggaaactcc tcccaaaagc
540
aagcttgctg aaggggagga agaaaagcca gaaccagaca taagttcaga ggaatctgtc
600
tccactgtag aagaacaaga gaatgaaact ccacctgcta cttcgagtga ggcagagcag
660
ccaaaggggg aacctgagaa tgaagagaag gaagaaaata agtcttctga ggaaaccaa
720
aaggatgaga aagatcagtc taaagaaaag gagaagaaag tgaaaaaaac aattccttcc
780
tgggctaccc tttctgccag ccagctagcc agggcccaga aacaaacacc gatggcttct
840
tccccacgtc ccaagatgga tgcaatctta actgaggcca ttaaggcatg cttccagaag
900
agtgggtgcat cagtgggtgc tattcgaaaa tacatcatcc ataagtatcc ttctctggag
960

```

ctggagagaa ggggttatct ccttaaacia gcactgaaaa gagaattaaa tagaggagtc  
 1020  
 atcaaacagg tattacacaa tgtaaagga aaagggtgctt ctggaagttt tgttggtggt  
 1080  
 cagaaatcaa gaaaaacacc tcagaaatcc agaaacagaa agaataggag ctctgcagt  
 1140  
 gatccagaac cacaagtaaa attggaggat gtcctccac tggcctttac tcgcctttgt  
 1200  
 gaacctaaag aagcttccta cagtctcatc aggaaatatg tgtctcagta ttatcctaag  
 1260  
 cttagagtgg acatcaggcc tcagctgttg aagaacgctc tgcagagagc agtagagagg  
 1320  
 ggccagttag aacagataac tggcaaaggt gcttcgggga cattccagct gaagaaatca  
 1380  
 ggggagaaac ccctgcttgg tggaagcctg atggaatatg caatcttgct tgccattgct  
 1440  
 gccatgaatg agccgaagac ctgctctacc actgctctga agaagtatgt cctagagaat  
 1500  
 caccagga ccaattctaa ctatcaaatg catttgctga aaaaaaccct gcagaaatgc  
 1560  
 gaaaagaatg ggtggatgga acagatctct gggaaaggt tcagtggcac cttccagctc  
 1620  
 tgttttcctt attatcccag ccaggaggt ctgtttccga agaaagagcc agatgattct  
 1680  
 agatgagg atgaagatga agatgagtca tcagaagaag actctgagga tgaagagccg  
 1740  
 ccacctaaga gaagggtgca gaagaaaacc ccagccaagt cccagggga ggccgcatct  
 1800  
 gtgaagcaga gagggtccaa acctgcacct aaagtctcag ctgcccagcg ggggaaagct  
 1860  
 aggcccttgc ctaagaaagc acctcctaag gccaaaacgc ctgccaagaa gaccagacct  
 1920  
 tcatccacag tcatcaagaa acctagtggg ggctcctcaa agaagcctgc aaccagtgc  
 1980  
 agaaaggaag taaaattgcc gggcaagggc aaatccacca tgaagaagtc tttcagagt  
 2040  
 aaaaagtaaa ttttatagga aaaaagggt tcatgatgaa attcaaatc ttattttcta  
 2100  
 aggtcagtgt gcatttggtt agttttgatg cttttcaaat tacattattt tctcccta  
 2160  
 tgaacattgt ggggagggac tctaaataaa ccagtttagg catttgctag c  
 2211

&lt;210&gt; 4548

&lt;211&gt; 515

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4548

Arg	Thr	Val	Asn	Ser	Thr	Arg	Glu	Thr	Pro	Pro	Lys	Ser	Lys	Leu	Ala
1			5					10						15	
Glu	Gly	Glu	Glu	Glu	Lys	Pro	Glu	Pro	Asp	Ile	Ser	Ser	Glu	Glu	Ser
		20					25					30			
Val	Ser	Thr	Val	Glu	Glu	Gln	Glu	Asn	Glu	Thr	Pro	Pro	Ala	Thr	Ser

35	40	45
Ser Glu Ala Glu Gln Pro Lys Gly Glu Pro Glu Asn Glu Glu Lys Glu		
50	55	60
Glu Asn Lys Ser Ser Glu Glu Thr Lys Lys Asp Glu Lys Asp Gln Ser		
65	70	75
Lys Glu Lys Glu Lys Lys Val Lys Lys Thr Ile Pro Ser Trp Ala Thr		80
	85	90
Leu Ser Ala Ser Gln Leu Ala Arg Ala Gln Lys Gln Thr Pro Met Ala		95
100	105	110
Ser Ser Pro Arg Pro Lys Met Asp Ala Ile Leu Thr Glu Ala Ile Lys		
115	120	125
Ala Cys Phe Gln Lys Ser Gly Ala Ser Val Val Ala Ile Arg Lys Tyr		
130	135	140
Ile Ile His Lys Tyr Pro Ser Leu Glu Leu Glu Arg Arg Gly Tyr Leu		
145	150	155
Leu Lys Gln Ala Leu Lys Arg Glu Leu Asn Arg Gly Val Ile Lys Gln		160
	165	170
Val Leu His Asn Val Lys Gly Lys Gly Ala Ser Gly Ser Phe Val Val		175
180	185	190
Val Gln Lys Ser Arg Lys Thr Pro Gln Lys Ser Arg Asn Arg Lys Asn		
195	200	205
Arg Ser Ser Ala Val Asp Pro Glu Pro Gln Val Lys Leu Glu Asp Val		
210	215	220
Leu Pro Leu Ala Phe Thr Arg Leu Cys Glu Pro Lys Glu Ala Ser Tyr		
225	230	235
Ser Leu Ile Arg Lys Tyr Val Ser Gln Tyr Tyr Pro Lys Leu Arg Val		240
	245	250
Asp Ile Arg Pro Gln Leu Leu Lys Asn Ala Leu Gln Arg Ala Val Glu		255
260	265	270
Arg Gly Gln Leu Glu Gln Ile Thr Gly Lys Gly Ala Ser Gly Thr Phe		
275	280	285
Gln Leu Lys Lys Ser Gly Glu Lys Pro Leu Leu Gly Gly Ser Leu Met		
290	295	300
Glu Tyr Ala Ile Leu Ser Ala Ile Ala Ala Met Asn Glu Pro Lys Thr		
305	310	315
Cys Ser Thr Thr Ala Leu Lys Lys Tyr Val Leu Glu Asn His Pro Gly		320
	325	330
Thr Asn Ser Asn Tyr Gln Met His Leu Leu Lys Lys Thr Leu Gln Lys		335
340	345	350
Cys Glu Lys Asn Gly Trp Met Glu Gln Ile Ser Gly Lys Gly Phe Ser		
355	360	365
Gly Thr Phe Gln Leu Cys Phe Pro Tyr Tyr Pro Ser Pro Gly Val Leu		
370	375	380
Phe Pro Lys Lys Glu Pro Asp Asp Ser Arg Asp Glu Asp Glu Asp Glu		
385	390	395
Asp Glu Ser Ser Glu Glu Asp Ser Glu Asp Glu Glu Pro Pro Pro Lys		400
	405	410
Arg Arg Leu Gln Lys Lys Thr Pro Ala Lys Ser Pro Gly Lys Ala Ala		415
420	425	430
Ser Val Lys Gln Arg Gly Ser Lys Pro Ala Pro Lys Val Ser Ala Ala		
435	440	445
Gln Arg Gly Lys Ala Arg Pro Leu Pro Lys Lys Ala Pro Pro Lys Ala		
450	455	460
Lys Thr Pro Ala Lys Lys Thr Arg Pro Ser Ser Thr Val Ile Lys Lys		

465		470		475		480									
Pro	Ser	Gly	Gly	Ser	Lys	Lys	Pro	Ala	Thr	Ser	Ala	Arg	Lys	Glu	
				485				490					495		
Val	Lys	Leu	Pro	Gly	Lys	Gly	Lys	Ser	Thr	Met	Lys	Lys	Ser	Phe	Arg
			500					505					510		
Val	Lys	Lys													
			515												

&lt;210&gt; 4549

&lt;211&gt; 2927

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4549

gatctgtgcg tgggggatgt ggtctgtctc cgcaaggaca acatcggtccc agccgacatg  
60  
ctcttgctgg ccagcacgga gccagcagc ctgtgctatg tggagacggt ggacattgac  
120  
ggggagacca acttgaagtt cagacaggcc ctgatggtca cccacaaaga actggccact  
180  
ataaagaaga tggcgctcctt tcaaggcaca gtgacgtgtg aggcgcctaa cagtcggatg  
240  
caccacttcg tggggtgcct ggaatggaat gacaagaaat actccctgga cattggcaac  
300  
ctctctctcc gaggtctgcag gattcgcaac acagacacct gctatggact ggtcatttat  
360  
gctgatggat acatgtttgt aggttttgac acaaaaatta tgaagaactg tggcaagatc  
420  
catttgaaga gaaccaagct ggacctcctg atgaacaagc tgggtggtgt gatcttcac  
480  
tccgtggtgc ttgtctgcct ggtgttgccc ttcggcttcg gtttctcagt caaagaattc  
540  
aaagaccacc actactacct ctcgggggtg catgggagca gcgtggccgc agagtccttc  
600  
ttcgtcttct ggagcttcct catcctgctc agcgtcacca tcccgatgct catgttcac  
660  
ctgtccgagt tcatctacct ggggaacagc gtcttcacg actgggacgt gcagatgtac  
720  
tacaagccgc aggacgtgcc tgccaaggcc cgcagcacca gcctcaacga ccacctggg  
780  
cagggtggaat acatcttctc ggacaagacg ggcacgctca cgcagaacat cttgaccttc  
840  
aacaagtgtc gcatcagcgg ccgctcttat ggagaacccc tacctctgga acaagttcgc  
900  
cgacgggaag ctgctcttcc acaatgcggc cctgctgcac ctctgtcgga ccaacgggga  
960  
cgaggccgtg cgggagttct ggcgcctgct ggccatctgc cacacggtga tgaccagctg  
1020  
ttgtaccagg cggcctcccc cgacgagggg gcgctggtca ccgcagcccg gaacttcggc  
1080  
tacgtgttcc tgtcccgac ccaggacacc gtcacgatca tggagctggg ggaggaacgg  
1140  
gtctaccagg tcctggccat aatggacttc aacagcacgc gcaaacggat gtcggtgctg  
1200

gttcgaaagc cagagggcgc catctgcctg tacaccaagg gcgccgacac ggtcatcttc  
1260  
gaacgcttgc acaggagggg ggcaatggaa tttgccacag aggaggcctt ggctgccttt  
1320  
gcccaggaga ccctgcggaac actgtgcctg gcctacaggg aggtggctga ggacatttac  
1380  
gaggactggc agcagcgcca ccaggaggcc agcctcctgc tgcagaaccg ggcacaggcc  
1440  
ctgcaacagg tgtacaacga gatggagcag gacctcaggc tgctgggagc cacagccatc  
1500  
gaggacagac tccaggacgg tgtccctgaa accatcaaat gtctcaagaa gagcaacatc  
1560  
aaaatatggg tgctcaccgg ggacaagcag gaaacggctg tgaacatcgg ctctgcctgc  
1620  
gagctgctgt cagagaatat gctcattctg gaggagaagg agattagccg catcctggag  
1680  
acctactggg aaaacagtaa caaccttcta accaggaggt ccctgtcgca ggtcaagctg  
1740  
gccttgggtca ttaacggaga cttcctggac aaactgctgg tgtccctgcg gaaggagccg  
1800  
cgcgccctgg cgcagaacgt gaacatggac gaggcgctggc aggagctcgg ccagtcagg  
1860  
agggatttcc tctacgccag gcgcctgtcc ctgctgtgcc ggagggtcgg gctcccgtc  
1920  
gctgcaccgc cagcccagga ctccagagcc cgccgtagct ccgagggtgct gcaggagcgc  
1980  
gccttcgtgg acctggcgtc caagtgccag gcggtcattc gctgcccggt gacgcccag  
2040  
cagaaggccc tgatcgctggc cctgggtcaag aagtaccacc aggtgggtgac cctggccatc  
2100  
ggggacggtg ccaacgacat caacatgatc aagaccgcgg acgtgggcgt ggggctggcg  
2160  
ggccaggagg gcatgcaggc agttcagaac agcgacttcg tgctcggcca gttctgcttc  
2220  
ctgcagcgcc tctgctgggt gcacggccgc tggctctacg tgcggatctg caagtctctg  
2280  
cgctacttct tctacaagag catggccagc atgatgggtg aggtctgggt tgctgctac  
2340  
aacggcttca ccggccagga cgtgagcgca gagcagagcc tggagaagcc ggagctgtac  
2400  
gtgggtggggc agaaggacga gctcttcaac tactgggtct tcgtccaagc catcgcccat  
2460  
ggtgtgacca cctctctgggt caacttcttc atgacactgt ggatcagccg cgacacggcg  
2520  
ggaccgcga gcttcagcga ccaccagtc tttgcggtcg tggtagccct gtcttgctg  
2580  
ctgtccatca ccatggaggt cattcttata atcaagtact ggaccgccct gtgctggcg  
2640  
accatcctcc tcagccttgg tttctacgcc atcatgacta ccaccacca gagcttctgg  
2700  
ctcttcagaa tgccgacctc agcgtgatgt cctctccctc catcctgctg gtggtcctgc  
2760  
tgagtgtgtc cataaacacc ttccctgtcc tggccctccg agtcatcttc ccagccctca  
2820



aggagctacg tgccaaggtg aggtgggcct gggcctgggg tcctcatctg gtacattcca  
 2880  
 ggaccctggt tggggagccg tgcagggcgt agggactgca aggtgtc  
 2927

<210> 4550

<211> 908

<212> PRT

<213> Homo sapiens

<400> 4550

Asp	Leu	Cys	Val	Gly	Asp	Val	Val	Cys	Leu	Arg	Lys	Asp	Asn	Ile	Val
1			5						10					15	
Pro	Ala	Asp	Met	Leu	Leu	Leu	Ala	Ser	Thr	Glu	Pro	Ser	Ser	Leu	Cys
		20						25					30		
Tyr	Val	Glu	Thr	Val	Asp	Ile	Asp	Gly	Glu	Thr	Asn	Leu	Lys	Phe	Arg
	35						40					45			
Gln	Ala	Leu	Met	Val	Thr	His	Lys	Glu	Leu	Ala	Thr	Ile	Lys	Lys	Met
	50					55					60				
Ala	Ser	Phe	Gln	Gly	Thr	Val	Thr	Cys	Glu	Ala	Pro	Asn	Ser	Arg	Met
65					70					75				80	
His	His	Phe	Val	Gly	Cys	Leu	Glu	Trp	Asn	Asp	Lys	Lys	Tyr	Ser	Leu
			85						90					95	
Asp	Ile	Gly	Asn	Leu	Leu	Leu	Arg	Gly	Cys	Arg	Ile	Arg	Asn	Thr	Asp
			100					105					110		
Thr	Cys	Tyr	Gly	Leu	Val	Ile	Tyr	Ala	Asp	Gly	Tyr	Met	Phe	Val	Gly
	115						120					125			
Phe	Asp	Thr	Lys	Ile	Met	Lys	Asn	Cys	Gly	Lys	Ile	His	Leu	Lys	Arg
	130					135					140				
Thr	Lys	Leu	Asp	Leu	Leu	Met	Asn	Lys	Leu	Val	Val	Val	Ile	Phe	Ile
145					150					155					160
Ser	Val	Val	Leu	Val	Cys	Leu	Val	Leu	Ala	Phe	Gly	Phe	Gly	Phe	Ser
			165						170					175	
Val	Lys	Glu	Phe	Lys	Asp	His	His	Tyr	Tyr	Leu	Ser	Gly	Val	His	Gly
		180						185					190		
Ser	Ser	Val	Ala	Ala	Glu	Ser	Phe	Phe	Val	Phe	Trp	Ser	Phe	Leu	Ile
		195					200					205			
Leu	Leu	Ser	Val	Thr	Ile	Pro	Met	Ser	Met	Phe	Ile	Leu	Ser	Glu	Phe
	210					215					220				
Ile	Tyr	Leu	Gly	Asn	Ser	Val	Phe	Ile	Asp	Trp	Asp	Val	Gln	Met	Tyr
225					230					235				240	
Tyr	Lys	Pro	Gln	Asp	Val	Pro	Ala	Lys	Ala	Arg	Ser	Thr	Ser	Leu	Asn
			245						250					255	
Asp	His	Leu	Gly	Gln	Val	Glu	Tyr	Ile	Phe	Ser	Asp	Lys	Thr	Gly	Thr
		260						265					270		
Leu	Thr	Gln	Asn	Ile	Leu	Thr	Phe	Asn	Lys	Cys	Cys	Ile	Ser	Gly	Arg
		275					280						285		
Val	Tyr	Gly	Glu	Pro	Leu	Pro	Leu	Glu	Gln	Val	Arg	Arg	Arg	Glu	Ala
	290					295					300				
Ala	Leu	Pro	Gln	Cys	Gly	Pro	Ala	Ala	Pro	Arg	Ala	Asp	Gln	Arg	Gly
305					310					315				320	
Arg	Gly	Arg	Ala	Gly	Val	Leu	Ala	Pro	Ala	Gly	His	Leu	Pro	His	Gly
			325					330					335		
Asp	Asp	Gln	Leu	Leu	Tyr	Gln	Ala	Ala	Ser	Pro	Asp	Glu	Gly	Ala	Leu

[illegible]

770		775		780
Gly Gln Asp Val Ser Ala Glu Gln Ser Leu Glu Lys Pro Glu Leu Tyr				
785		790		795
Val Val Gly Gln Lys Asp Glu Leu Phe Asn Tyr Trp Val Phe Val Gln				800
	805		810	815
Ala Ile Ala His Gly Val Thr Thr Ser Leu Val Asn Phe Phe Met Thr				
	820		825	830
Leu Trp Ile Ser Arg Asp Thr Ala Gly Pro Ala Ser Phe Ser Asp His				
	835		840	845
Gln Ser Phe Ala Val Val Val Ala Leu Ser Cys Leu Leu Ser Ile Thr				
	850		855	860
Met Glu Val Ile Leu Ile Ile Lys Tyr Trp Thr Ala Leu Cys Val Ala				
865		870		875
Thr Ile Leu Leu Ser Leu Gly Phe Tyr Ala Ile Met Thr Thr Thr Thr				880
	885		890	895
Gln Ser Phe Trp Leu Phe Arg Met Pro Thr Ser Ala				
	900		905	

&lt;210&gt; 4551

&lt;211&gt; 361

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4551

gcgcgcccac cccacgggtc ggggtctgaca ggtttccccc ggggtgcgggtt gcctggggcc  
60  
atggagggac catcggtcag ggtgaggaca ggaggaaggg ggtctagggc ccttcaggga  
120  
caggcagggg tggttttgcc tgtctcagag caggcctcag cagcacactg tccagtacca  
180  
ggcatcagtg agggccaag aacttcagc cagcagggac gacagggcag ggccccag  
240  
agagacccca cacagcgcac atgggagagt ggatgccaaa ggtgggcagc ggggagggcg  
300  
cctgccaaac agtcctgtg tggtgtgccg cagcgtgctg aggtctctgt gcggtgttgg  
360

c

361

&lt;210&gt; 4552

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4552

Met Glu Gly Pro Ser Val Arg Val Arg Thr Gly Gly Arg Gly Ser Arg				
1	5	10	15	
Ala Leu Gln Gly Gln Ala Gly Val Ala Leu Pro Val Ser Glu Gln Ala				
	20	25	30	
Ser Ala Ala His Cys Pro Val Pro Gly Ile Ser Glu Gly Pro Arg Thr				
	35	40	45	
Cys Ser Gln Gln Gly Arg Gln Gly Arg Ala Pro Arg Arg Asp Pro Thr				
50	55	60		
Gln Arg Thr Trp Glu Ser Gly Cys Gln Arg Trp Ala Ala Gly Arg Ala				



tacattcacc ccaatgcatt tttcagactc cccaagctgg aatcactcat gctgaacagc  
1320  
aatgctctca gtgccctgta ccatgggtacc attgagtctc tgccaaacct caaggaaatc  
1380  
agcatacaca gtaaccccat caggtgtgac tgtgtcatcc gttggatgaa catgaacaaa  
1440  
accaacattc gattcatgga gccagattca ctgttttgcg tggaccacc tgaattccaa  
1500  
ggtcagaatg ttcggcaagt gcatttcagg gacatgatgg aaatttgtct ccctcttata  
1560  
gctcctgaga gctttccttc taatctaaat gtagaagctg ggagctatgt ttcctttcac  
1620  
tgtagagcta ctgcagaacc acagcctgaa atctactgga taacaccttc tgggtcaaaaa  
1680  
ctcttgccata ataccctgac agacaagttc tatgtccatt ctgaggggaa actagatata  
1740  
aatggcgtaa ctcccaaaga aggggggttta tatacttgta tagcaactaa cctagttggc  
1800  
gctgacttga agtctgttat gatcaaagtg gatggatctt ttccacaaga taacaatggc  
1860  
tctttgaata ttaaaataag agatattcag gccaatcag ttttggtgct ctggaaagca  
1920  
agttctaaaa ttctcaaatc tagtgttaaa tggacagcct ttgtcaagac tgaaaattct  
1980  
catgctgctc aaagtgtctg aataccatct gatgtcaagg tatataatct tactcatctg  
2040  
aatccatcaa ctgagtataa aatttgtatt gatattccca ccatctatca gaaaaacaga  
2100  
aaaaaatgtg taaatgtcac caccaaaggc ttgcaccctg atcaaaaaga gtatgaaaag  
2160  
aataatacca caacacttat ggctgtctt ggaggccttc tggggattat tgggtgtgata  
2220  
tgtcttatca gctgctctc tccagaaatg aactgtgatg gtggacacag ctatgtgagg  
2280  
aattacttac agaaaccaac ctttgcatga ggtgagcttt atcctcctct gataaatctc  
2340  
tgggaagcag gaaaagaaaa aagtacatca ctgaaagtaa aagcaactgt tataggttta  
2400  
ccaacaaata tgtcctaaaa accaccaagg aaacctactc caaaaatgaa caaaaaaaaa  
2460  
aaaagcgaaa gactgcagtt gtgctaaaaa caaaacaaaa caaacaaca aacaaaaaag  
2520  
taaaaaaaga ttactttcga gagagaagtt taagcttcac caatgctgct cctgaccaat  
2580  
ggaaatatgt acaacttcag cattttaagt aactggcttc aaggggtact gtggcaacca  
2640  
aataaaataa ctccattttc taaaactttc atgtaacttt tatgtctgga ctacagttca  
2700  
agtggacaaa aacattttctg tatttttttt aagtaaataa gagtagttga actgagcaat  
2760  
acctcctcct gtgttgatt acacatatta gccacgagtt tttgcagtga ccagataaac  
2820  
ttgaattgac acgtggtgta ataaaatgga caaattctgt agagtagaca cagtgagtat  
2880

gtggacctct tttataagga aaaatacatt ttggattaaa atcaattgct tctgtcttgt  
 2940  
 tttgtttcta aataaagaat aattttctggg  
 2970

<210> 4554

<211> 705

<212> PRT

<213> Homo sapiens

<400> 4554

Met	Pro	Leu	Arg	Ile	His	Val	Leu	Leu	Gly	Leu	Ala	Ile	Thr	Thr	Leu
1				5					10					15	
Val	Gln	Ala	Val	Asp	Lys	Lys	Val	Asp	Cys	Pro	Arg	Leu	Cys	Thr	Cys
			20					25					30		
Glu	Ile	Arg	Pro	Trp	Phe	Thr	Pro	Arg	Ser	Ile	Tyr	Met	Glu	Ala	Ser
		35					40					45			
Thr	Val	Asp	Cys	Asn	Asp	Leu	Gly	Leu	Leu	Thr	Phe	Pro	Ala	Arg	Leu
		50				55					60				
Pro	Ala	Asn	Thr	Gln	Ile	Leu	Leu	Leu	Gln	Thr	Asn	Asn	Ile	Ala	Lys
65					70					75				80	
Ile	Glu	Tyr	Ser	Thr	Asp	Phe	Pro	Val	Asn	Leu	Thr	Gly	Leu	Asp	Leu
				85					90					95	
Ser	Gln	Asn	Asn	Leu	Ser	Ser	Val	Thr	Asn	Ile	Asn	Val	Lys	Lys	Met
			100					105					110		
Pro	Gln	Leu	Leu	Ser	Val	Tyr	Leu	Glu	Glu	Asn	Lys	Leu	Thr	Glu	Leu
		115					120					125			
Pro	Glu	Lys	Cys	Leu	Ser	Glu	Leu	Ser	Asn	Leu	Gln	Glu	Leu	Tyr	Ile
		130				135					140				
Asn	His	Asn	Leu	Leu	Ser	Thr	Ile	Ser	Pro	Gly	Ala	Phe	Ile	Gly	Leu
145					150					155					160
His	Asn	Leu	Leu	Arg	Leu	His	Leu	Asn	Ser	Asn	Arg	Leu	Gln	Met	Ile
				165					170					175	
Asn	Ser	Lys	Trp	Phe	Asp	Ala	Leu	Pro	Asn	Leu	Glu	Ile	Leu	Met	Ile
			180					185					190		
Gly	Glu	Asn	Pro	Ile	Ile	Arg	Ile	Lys	Asp	Met	Asn	Phe	Lys	Pro	Leu
		195					200					205			
Ile	Asn	Leu	Arg	Ser	Leu	Val	Ile	Ala	Gly	Ile	Asn	Leu	Thr	Glu	Ile
	210					215					220				
Pro	Asp	Asn	Ala	Leu	Val	Gly	Leu	Glu	Asn	Leu	Glu	Ser	Ile	Ser	Phe
225				230						235					240
Tyr	Asp	Asn	Arg	Leu	Ile	Lys	Val	Pro	His	Val	Ala	Leu	Gln	Lys	Val
			245						250					255	
Val	Asn	Leu	Lys	Phe	Leu	Asp	Leu	Asn	Lys	Asn	Pro	Ile	Asn	Arg	Ile
		260						265					270		
Arg	Arg	Gly	Asp	Phe	Ser	Asn	Met	Leu	His	Leu	Lys	Glu	Leu	Gly	Ile
		275					280					285			
Asn	Asn	Met	Pro	Glu	Leu	Ile	Ser	Ile	Asp	Ser	Leu	Ala	Val	Asp	Asn
		290				295					300				
Leu	Pro	Asp	Leu	Arg	Lys	Ile	Glu	Ala	Thr	Asn	Asn	Pro	Arg	Leu	Ser
305					310					315					320
Tyr	Ile	His	Pro	Asn	Ala	Phe	Phe	Arg	Leu	Pro	Lys	Leu	Glu	Ser	Leu
				325					330					335	
Met	Leu	Asn	Ser	Asn	Ala	Leu	Ser	Ala	Leu	Tyr	His	Gly	Thr	Ile	Glu

340 345 350  
 Ser Leu Pro Asn Leu Lys Glu Ile Ser Ile His Ser Asn Pro Ile Arg  
 355 360 365  
 Cys Asp Cys Val Ile Arg Trp Met Asn Met Asn Lys Thr Asn Ile Arg  
 370 375 380  
 Phe Met Glu Pro Asp Ser Leu Phe Cys Val Asp Pro Pro Glu Phe Gln  
 385 390 395 400  
 Gly Gln Asn Val Arg Gln Val His Phe Arg Asp Met Met Glu Ile Cys  
 405 410 415  
 Leu Pro Leu Ile Ala Pro Glu Ser Phe Pro Ser Asn Leu Asn Val Glu  
 420 425 430  
 Ala Gly Ser Tyr Val Ser Phe His Cys Arg Ala Thr Ala Glu Pro Gln  
 435 440 445  
 Pro Glu Ile Tyr Trp Ile Thr Pro Ser Gly Gln Lys Leu Leu Pro Asn  
 450 455 460  
 Thr Leu Thr Asp Lys Phe Tyr Val His Ser Glu Gly Thr Leu Asp Ile  
 465 470 475 480  
 Asn Gly Val Thr Pro Lys Glu Gly Gly Leu Tyr Thr Cys Ile Ala Thr  
 485 490 495  
 Asn Leu Val Gly Ala Asp Leu Lys Ser Val Met Ile Lys Val Asp Gly  
 500 505 510  
 Ser Phe Pro Gln Asp Asn Asn Gly Ser Leu Asn Ile Lys Ile Arg Asp  
 515 520 525  
 Ile Gln Ala Asn Ser Val Leu Val Ser Trp Lys Ala Ser Ser Lys Ile  
 530 535 540  
 Leu Lys Ser Ser Val Lys Trp Thr Ala Phe Val Lys Thr Glu Asn Ser  
 545 550 555 560  
 His Ala Ala Gln Ser Ala Arg Ile Pro Ser Asp Val Lys Val Tyr Asn  
 565 570 575  
 Leu Thr His Leu Asn Pro Ser Thr Glu Tyr Lys Ile Cys Ile Asp Ile  
 580 585 590  
 Pro Thr Ile Tyr Gln Lys Asn Arg Lys Lys Cys Val Asn Val Thr Thr  
 595 600 605  
 Lys Gly Leu His Pro Asp Gln Lys Glu Tyr Glu Lys Asn Asn Thr Thr  
 610 615 620  
 Thr Leu Met Ala Cys Leu Gly Gly Leu Leu Gly Ile Ile Gly Val Ile  
 625 630 635 640  
 Cys Leu Ile Ser Cys Leu Ser Pro Glu Met Asn Cys Asp Gly Gly His  
 645 650 655  
 Ser Tyr Val Arg Asn Tyr Leu Gln Lys Pro Thr Phe Ala Leu Gly Glu  
 660 665 670  
 Leu Tyr Pro Pro Leu Ile Asn Leu Trp Glu Ala Gly Lys Glu Lys Ser  
 675 680 685  
 Thr Ser Leu Lys Val Lys Ala Thr Val Ile Gly Leu Pro Thr Asn Met  
 690 695 700  
 Ser  
 705

&lt;210&gt; 4555

&lt;211&gt; 1128

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4555

nagtgggaat tagatcctct gggaaccctg gagcttgggtg agagtgcgc tgccatgggg  
 60  
 ttgggtccct gaggccttcc tcggagcatt gggtgccagg ggctgcccag gcttcctgag  
 120  
 tggccacact ggggtgggagg ctgccaccgc ggcctgatca tgccctctgt gcccacacag  
 180  
 gtctctgagc ggccctgat gttcctgttg gacactcctg gcgtgctggc tcctcggatt  
 240  
 gaaagtgtgg agacaggcct gaagctggcc ctgtgtggaa cgggtgctgga ccacctggtc  
 300  
 ggggaggaga ccatggctga ctacctgtg tacaccctca acaaacacca gcgctttggg  
 360  
 tgagtgcagc actacggcct gggcagtgcc tgtgacaacg tagagcgct gctgaagagt  
 420  
 gtggctgtga agctggggaa gacgcagaag gtgaagggtgc tcacggggcac gggtaacgtg  
 480  
 aacgttattc agcctaacta tcctgaggca gcccgtgact tcctgcagac tttccgccgt  
 540  
 gggctgctgg gttccgtgat gctggacctc gacgtcctgc ggggccaccc cccggctgag  
 600  
 actttgccct gaacttgtcc gggtagggag ggccggaggc atgtggcctc ccagacctcc  
 660  
 tgacctgggt ggttgaggct caagacagct caccgggtcc agaagctcca tgctgggtcac  
 720  
 taggggtgctg tgctctctgg cgccccacag cctggccagc tccagggacc ccagttgcag  
 780  
 ggcccaagca ggtgggagtg gacaccaggc ttcccagtgg acgtccctga gcagctccgc  
 840  
 atgcttggtt ctcccgagc ttctgtctca ggcctcttga gaaatggatg ctgtctcaga  
 900  
 aggagttaaa gctataacct gtaaccttta aaatctccag ttaaagggcc tgtttcttac  
 960  
 tggcctgtga ggtgcaccgt agtgccttgg gcctgtgtgt taaagctgct ctcaccagtg  
 1020  
 gaacctaaaga aatgagcagg ttggcagcta gggtttgtgt tggaggcttt cgggccagtg  
 1080  
 tcttgcatc ctacaacaag tgagagcttg ctgccaaaaa aaaaaaaa  
 1128

&lt;210&gt; 4556

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4556

Met	Pro	Ser	Val	Pro	Thr	Gln	Val	Ser	Glu	Arg	Pro	Leu	Met	Phe	Leu
1				5				10				15			
Leu	Asp	Thr	Pro	Gly	Val	Leu	Ala	Pro	Arg	Ile	Glu	Ser	Val	Glu	Thr
			20					25				30			
Gly	Leu	Lys	Leu	Ala	Leu	Cys	Gly	Thr	Val	Leu	Asp	His	Leu	Val	Gly
		35				40					45				
Glu	Glu	Thr	Met	Ala	Asp	Tyr	Leu	Leu	Tyr	Thr	Leu	Asn	Lys	His	Gln
	50					55					60				
Arg	Phe	Gly													



65

&lt;210&gt; 4557

&lt;211&gt; 446

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4557

```

nnacgcgtgc acagaaagcg gtgccaggac tctcttggtc ctctcggag ggctgggatg
60
gctgtccct ctctctcct caccctgct cccagcaagg ccgtccgttg tgcccaagac
120
catctaggac attctcatcc ccctgagacc tcaagggcct tctgcctcc tcctcagac
180
gtgaggggtga gatcctgcct ctaccattgg agcgccacag cccacctgcc tcctctgtca
240
aaaaaacctc cttgtaccat ctctcacttg agacctctgc taggcctgcc tcctccatct
300
gacctccaca tcccatcage agccacctg ggcctctgca tgcactggcc tcctccctca
360
gacgtcctt gcaccatata acttgcatca gacgtctctc taggcctgcc tccccctca
420
gaccaccaca tcacatctac acgcgt
446

```

&lt;210&gt; 4558

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4558

```

Xaa Arg Val His Arg Lys Arg Cys Gln Asp Ser Leu Gly Ser Pro Arg
1           5           10          15
Arg Ala Gly Met Ala Cys Pro Ser Pro Leu Leu Thr Pro Ala Pro Ser
20          25          30
Lys Ala Val Arg Cys Ala Gln Asp His Leu Gly His Ser His Pro Pro
35          40          45
Glu Thr Ser Arg Ala Phe Leu Pro Pro Pro Ser Asp Val Arg Val Arg
50          55          60
Ser Cys Leu Tyr His Trp Ser Ala Thr Ala His Leu Pro Pro Leu Ser
65          70          75          80
Lys Lys Pro Pro Cys Thr Ile Ser His Leu Arg Pro Leu Leu Gly Leu
85          90          95
Pro Pro Pro Ser Asp Leu His Ile Pro Ser Ala Ala Thr Leu Gly Pro
100         105         110
Cys Met His Trp Pro Pro Pro Ser Asp Ala Pro Cys Thr Ile Ser Leu
115         120         125
Ala Leu Asp Ala Leu Leu Gly Leu Pro Pro Pro Ser Asp His His Ile
130         135         140
Thr Ser Thr Arg
145

```

&lt;210&gt; 4559

&lt;211&gt; 919

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4559

tttttttttt tttttttttt tttttttttt ttttgcttca atgctcttta tttcattagg  
 60  
 aaagtagctg ggcaggggtg ttcccctggg ggatggagtg ggggtacaga cagtagcctg  
 120  
 gtcctgtcc cctaggattg acaaaccaag ggctcagggc tcagctgtgt gccacgcagc  
 180  
 ggctgctgtg aggtgtgttc tggtagaagg ggctcagctga ggctcagggtt cttcccacgt  
 240  
 ggggatgcag gtgccgcagg ctctccatgg gggtgggggt ggcctccatg cagctgaccg  
 300  
 gctggctgag ggcgtagcct cctggcatct ggggctggat gccacctcga gtccagcctt  
 360  
 cctggcttag acccttgggg atgttctcaa agtacccttg gttgtaggtg gtcaggtatc  
 420  
 gctgatccct gtcaggatca caggggctcc ggacatacat ggggttgta aggctgaacc  
 480  
 ctgtgggctc ctttttcccc acagtctccc ggccaagcag ggcaacgttt gtctgttgca  
 540  
 tccgatgaag tggctgaaac tgctggtgac tcacgtgct gggttctggg cagggagggg  
 600  
 gcactctggg gttcagaatc ctttcattcc ctgggtgaa ggctgtttcc cgcttgagc  
 660  
 ctctggccaa cacaggtagg aactcatctc catgtagggt agtcttgggg aggaagtctg  
 720  
 acttggtgac actctggcct gggaggaggg caggggtccc cagggagggc ctgtgagggc  
 780  
 ggttgaaga caatggggct ctggtgggac tgtttgggtga agccactccc ctcttttgcg  
 840  
 ccgatcgatt tcttctgcaa gaaatctggc tggctagag ggtccctgag atacttggaa  
 900  
 ttgtactccg acgtcatga  
 919

&lt;210&gt; 4560

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4560

Met Gln Gln Thr Asn Val Ala Leu Leu Gly Arg Glu Thr Val Gly Lys  
 1 5 10 15  
 Lys Glu Pro Thr Gly Phe Ser Leu Asn Asn Pro Met Tyr Val Arg Ser  
 20 25 30  
 Pro Cys Asp Pro Asp Arg Asp Gln Arg Tyr Leu Thr Thr Tyr Asn Gln  
 35 40 45  
 Gly Tyr Phe Glu Asn Ile Pro Lys Gly Leu Asp Gln Glu Gly Trp Thr  
 50 55 60  
 Arg Gly Gly Ile Gln Pro Gln Met Pro Gly Gly Tyr Ala Leu Ser Gln  
 65 70 75 80  
 Pro Val Ser Cys Met Glu Ala Thr Pro Asn Pro Met Glu Ser Leu Arg

**3755**

tcacatcttttg ggaatcttga tccctttggc acaggacagc cccttcctcc gttacaaatt  
1320  
ccacagcaga ctgctcagca tagtatagt ctgcctctga agaagccgcc caagtggatt  
1380  
cgaaggcctg ttggtgcttc tttttcattt ggaggcaaac tggttacgtt tgagaatgtc  
1440  
agaatgcctt ctcacagagg agctgagcag cagcagcagc agcaccatgt gttcattagt  
1500  
caggttgtaa cagaaaagga gtctctcagc cgatcagacc aacttcagca ggctgtgcag  
1560  
tcacaaggat ttatcaatta ttgccaaaaa aaaattgatg cttctcagac tgaatttgag  
1620  
aaaaatgtgt ggtccttttt gaaggtaaac tttgaggatg attctcgtgg aaaatacctt  
1680  
gaacttctag gatacagaaa agaagatcta gaaaagnnac aggacattaa agaggaaaaa  
1740  
gaagaatctg aatttctacc ctcacatctgga ggaacattta atatctctgt cagtggggac  
1800  
attgatgggt taattactca ggctttgctg acgggcaatt ttgagagtgc tgttgacctt  
1860  
tgtttacatg ataaccgcat ggccgatgcc attatatgg ccatagcagg tggacaagaa  
1920  
ctcttggtc gaaccagaa aaaatacttc gcaaaatccc aaagcaaaat taccaggctc  
1980  
atcactgcag tggatgatgaa gaactggaaa gagattgttg agtcttgtga tcttaaaaat  
2040  
tggagagagg ctttagctgc agtattgact tatgcaaagc cggatgaatt ttcagccctt  
2100  
tgtgatcttt tgggaaccag gcttgaaaat gaaggagata gcctcctgca gactcaagca  
2160  
tgtctctgct atatttgtgc agggaaatgta gagaaattag ttgcatgttg gactaaagct  
2220  
caagatggaa gccacccttt gtcacttcag gatctgattg agaaagttgt catcctgcga  
2280  
aaagctgtgc aactcactca agccatggac actagtactg taggagttct cttggctgcg  
2340  
aagatgagtc agtatgccaa tttgttggca gctcagggca gtattgctgc agccttggct  
2400  
tttcttctg acaacaccaa ccagccaaat atcatgcagc ttcgtgacag actttgtaga  
2460  
gcacaaggag agcctgtagc aggacatgaa tcacctaaaa ttccgtacga gaaacagcag  
2520  
ctcccgaagg gcaggcctgg accagttgct ggccaccacc agatgccaag agttcaaact  
2580  
caacaatatt atccccatgg agaaaatcct ccacctccgg gtttcataat gcatggaaat  
2640  
gttaatccaa atgctgctgg tcagcttccc acatctccag gtcatatgca caccaggtg  
2700  
ccaccttatc cacagccaca gccttatcaa ccagcccagc cgtatccctt cggaacaggg  
2760  
gggtcagcaa tgtatcgacc tcagcagcct gttgctcctc ctacttcaaa cgcttaccct  
2820  
aacacccctt acatatcttc tgcttcttcc tatactgggc agtctcagct gtacgcagca  
2880

cagcaccagg cctcttcacc tacctccagc cctgctactt ctttccctcc tccccctcc  
 2940  
 tctggagcat ccttccagca tggcggacca ggagctccac catcatcttc agcttatgca  
 3000  
 ctgcctcctg gaacaacagg tacactgcct gctgccagtg agctgcctgc gtcccaaaga  
 3060  
 acaggtcctc agaatggttg gaatgaccct ccagctttga acagagtacc caaaaagaag  
 3120  
 aagatgcctg aaaacttcat gcctcctggt cccatcacat caccaatcat gaacccggtg  
 3180  
 ggtgaccccc agtcacaaat gctgcagcaa cagccttcag ctccagtacc actgtcaagc  
 3240  
 cagtcttcat tcccacagcc acatcttcca ggtggccagc ccttccatgg cgtacagcaa  
 3300  
 cctcttggtc aaacaggcat gccaccatct ttttcaaagc ccaatattga aggtgcccc  
 3360  
 ggggctccta ttggaaatac cttccagcat gtgcagtctt tgccaacaaa aaaaattacc  
 3420  
 aagaaacctt tccagatga gcacctcatt ctaaagacca catttgagga tcttattcag  
 3480  
 cgctgccttt cttcagcaac agaccctcaa accaagagga agctagatga tgccagcaaa  
 3540  
 cgtttggagt ttctgtatga taaacttagg gaacagacac tttcaccaac aatcaccagt  
 3600  
 ggtttacaca acattgcaag gagcattgaa actcgaaact actcagaagg attgaccatg  
 3660  
 catacccaca tagttagcac cagcaacttc agtgagacct ctgctttcat gccagttctc  
 3720  
 aaagttgttc tcaccaggc caataagctg ggtgtctaaa aggacagctt ctcttccact  
 3780  
 caatattgcc atttttccaa agaaacatgt taaaaaaaaa aattataaga catggactag  
 3840  
 tcctcattag catgtttgca tagcaaccag tcaagagcat ttacactatt tctgctgata  
 3900  
 tactcacctt agaactgctc agaaccctgg tgctttatatt ttgttttaat cttttgttgc  
 3960  
 cagtgatgat ttctctattc tgcaaatagt gtatttctctg gattacacat agtatggttt  
 4020  
 cctgaagtat tctgataaat gtgttttttt aaaacctcaa tatacttttt agaaaaggag  
 4080  
 catctgggta tgcataaagc agagctaaaa ctaaatttct ttcatgtcct ccctacttcc  
 4140  
 tcagtgtcaa tcagattaaa gtgtgtaatc ct  
 4172

&lt;210&gt; 4562

&lt;211&gt; 1182

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4562

Met Lys Leu Lys Glu Val Asp Arg Thr Ala Met Gln Ala Trp Ser Pro  
 1 5 10 15  
 Ala Gln Asn His Pro Ile Tyr Leu Ala Thr Gly Thr Ser Ala Gln Gln

**3758**

450                      455                      460  
 Ser Gln Thr Glu Phe Glu Lys Asn Val Trp Ser Phe Leu Lys Val Asn  
 465                      470                      475                      480  
 Phe Glu Asp Asp Ser Arg Gly Lys Tyr Leu Glu Leu Leu Gly Tyr Arg  
                     485                      490                      495  
 Lys Glu Asp Leu Glu Lys Xaa Gln Asp Ile Lys Glu Glu Lys Glu Glu  
                     500                      505                      510  
 Ser Glu Phe Leu Pro Ser Ser Gly Gly Thr Phe Asn Ile Ser Val Ser  
                     515                      520                      525  
 Gly Asp Ile Asp Gly Leu Ile Thr Gln Ala Leu Leu Thr Gly Asn Phe  
                     530                      535                      540  
 Glu Ser Ala Val Asp Leu Cys Leu His Asp Asn Arg Met Ala Asp Ala  
 545                      550                      555                      560  
 Ile Ile Leu Ala Ile Ala Gly Gly Gln Glu Leu Leu Ala Arg Thr Gln  
                     565                      570                      575  
 Lys Lys Tyr Phe Ala Lys Ser Gln Ser Lys Ile Thr Arg Leu Ile Thr  
                     580                      585                      590  
 Ala Val Val Met Lys Asn Trp Lys Glu Ile Val Glu Ser Cys Asp Leu  
                     595                      600                      605  
 Lys Asn Trp Arg Glu Ala Leu Ala Ala Val Leu Thr Tyr Ala Lys Pro  
                     610                      615                      620  
 Asp Glu Phe Ser Ala Leu Cys Asp Leu Leu Gly Thr Arg Leu Glu Asn  
 625                      630                      635                      640  
 Glu Gly Asp Ser Leu Gln Thr Gln Ala Cys Leu Cys Tyr Ile Cys  
                     645                      650                      655  
 Ala Gly Asn Val Glu Lys Leu Val Ala Cys Trp Thr Lys Ala Gln Asp  
                     660                      665                      670  
 Gly Ser His Pro Leu Ser Leu Gln Asp Leu Ile Glu Lys Val Val Ile  
                     675                      680                      685  
 Leu Arg Lys Ala Val Gln Leu Thr Gln Ala Met Asp Thr Ser Thr Val  
                     690                      695                      700  
 Gly Val Leu Leu Ala Ala Lys Met Ser Gln Tyr Ala Asn Leu Leu Ala  
 705                      710                      715                      720  
 Ala Gln Gly Ser Ile Ala Ala Ala Leu Ala Phe Leu Pro Asp Asn Thr  
                     725                      730                      735  
 Asn Gln Pro Asn Ile Met Gln Leu Arg Asp Arg Leu Cys Arg Ala Gln  
                     740                      745                      750  
 Gly Glu Pro Val Ala Gly His Glu Ser Pro Lys Ile Pro Tyr Glu Lys  
                     755                      760                      765  
 Gln Gln Leu Pro Lys Gly Arg Pro Gly Pro Val Ala Gly His His Gln  
                     770                      775                      780  
 Met Pro Arg Val Gln Thr Gln Gln Tyr Tyr Pro His Gly Glu Asn Pro  
 785                      790                      795                      800  
 Pro Pro Pro Gly Phe Ile Met His Gly Asn Val Asn Pro Asn Ala Ala  
                     805                      810                      815  
 Gly Gln Leu Pro Thr Ser Pro Gly His Met His Thr Gln Val Pro Pro  
                     820                      825                      830  
 Tyr Pro Gln Pro Gln Pro Tyr Gln Pro Ala Gln Pro Tyr Pro Phe Gly  
                     835                      840                      845  
 Thr Gly Gly Ser Ala Met Tyr Arg Pro Gln Gln Pro Val Ala Pro Pro  
                     850                      855                      860  
 Thr Ser Asn Ala Tyr Pro Asn Thr Pro Tyr Ile Ser Ser Ala Ser Ser  
 865                      870                      875                      880  
 Tyr Thr Gly Gln Ser Gln Leu Tyr Ala Ala Gln His Gln Ala Ser Ser

885 890 895  
 Pro Thr Ser Ser Pro Ala Thr Ser Phe Pro Pro Pro Pro Ser Ser Gly  
 900 905 910  
 Ala Ser Phe Gln His Gly Gly Pro Gly Ala Pro Pro Ser Ser Ser Ala  
 915 920 925  
 Tyr Ala Leu Pro Pro Gly Thr Thr Gly Thr Leu Pro Ala Ala Ser Glu  
 930 935 940  
 Leu Pro Ala Ser Gln Arg Thr Gly Pro Gln Asn Gly Trp Asn Asp Pro  
 945 950 955 960  
 Pro Ala Leu Asn Arg Val Pro Lys Lys Lys Lys Met Pro Glu Asn Phe  
 965 970 975  
 Met Pro Pro Val Pro Ile Thr Ser Pro Ile Met Asn Pro Leu Gly Asp  
 980 985 990  
 Pro Gln Ser Gln Met Leu Gln Gln Gln Pro Ser Ala Pro Val Pro Leu  
 995 1000 1005  
 Ser Ser Gln Ser Ser Phe Pro Gln Pro His Leu Pro Gly Gly Gln Pro  
 1010 1015 1020  
 Phe His Gly Val Gln Gln Pro Leu Gly Gln Thr Gly Met Pro Pro Ser  
 1025 1030 1035 1040  
 Phe Ser Lys Pro Asn Ile Glu Gly Ala Pro Gly Ala Pro Ile Gly Asn  
 1045 1050 1055  
 Thr Phe Gln His Val Gln Ser Leu Pro Thr Lys Lys Ile Thr Lys Lys  
 1060 1065 1070  
 Pro Ile Pro Asp Glu His Leu Ile Leu Lys Thr Thr Phe Glu Asp Leu  
 1075 1080 1085  
 Ile Gln Arg Cys Leu Ser Ser Ala Thr Asp Pro Gln Thr Lys Arg Lys  
 1090 1095 1100  
 Leu Asp Asp Ala Ser Lys Arg Leu Glu Phe Leu Tyr Asp Lys Leu Arg  
 1105 1110 1115 1120  
 Glu Gln Thr Leu Ser Pro Thr Ile Thr Ser Gly Leu His Asn Ile Ala  
 1125 1130 1135  
 Arg Ser Ile Glu Thr Arg Asn Tyr Ser Glu Gly Leu Thr Met His Thr  
 1140 1145 1150  
 His Ile Val Ser Thr Ser Asn Phe Ser Glu Thr Ser Ala Phe Met Pro  
 1155 1160 1165  
 Val Leu Lys Val Val Leu Thr Gln Ala Asn Lys Leu Gly Val  
 1170 1175 1180

&lt;210&gt; 4563

&lt;211&gt; 2037

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4563

ctacttggtc tctgtcttgc ggcacatggc cttcaatttt ggggctccct cgggcacctc  
 60  
 cgggtaccgct gcagccaccg cgccccccgg ctgggtttgg aggatttggg acaacatcta  
 120  
 caactgcagg ttctgcattc agcttttctg ccccaactaa cacaggcact actggactct  
 180  
 ttggtggtac tcagaacaaa ggttttggat ttggtactgg ttttggcaca acaacgggaa  
 240  
 ctgactactgg tttaggtact ggtttgggaa ctggactggg atttggagga tttataacac  
 300



agcagcagca gcaaactagc agtaggttat agttgcatgc ccagtaataa agatgaagat  
360  
gggctagtgg ttttagtttt caacaaaaaa gaaacagaga ttcgaagcca acaacaacag  
420  
ttggtagaat cattgcataa agttttggga ggaaaccaga cccttactgt aaatgtagag  
480  
ggcactaaaa cattgccaga tgatcagaca gaagttgtta tttatgttgt tgagcgttcg  
540  
ccaaatggta cttcaagaag agttccagct acaacgctat atgcccattt tgaacaagcc  
600  
aatataaaaa cacaattgca gcaacttggg gtaacccttt ctatgactag aacagaactt  
660  
tctcctgcac agatcagaca gcttttacag aatcctcctg ctggtgttga tcctattatc  
720  
tgggaacagg ccaaggtaga taaccctgat tctgaaaagt taattcctgt accaatgggtg  
780  
ggttttaagg aacttctccg aagactgaag gttcaagatc agatgactaa gcagcatcaa  
840  
accagattag atatcatatc tgaagatatt agtgagctac aaaagaatca aactacatct  
900  
gtagccaaaa ttgcacaata caagaggaaa ctcatggatc tttcccatag aactttacag  
960  
gtcctaatac aacaggaaat tcaaaggaag agtgggttatg ccattcaggc tgatgaagag  
1020  
cagttgcgag ttcagctgga tacgattcag ggtgaactaa atgcacctac tcagttcaag  
1080  
ggccgactaa atgaattgat gtctcaaacc aggatgcaga atcattttgg agcagtcaga  
1140  
tctgaagaaa ggtattacat agatgcagat ctgttacgag aaatcaagca gcatttgaaa  
1200  
caacaacagg aaggccttag ccatttgatt agcatcatta aagacgatct agaagatata  
1260  
aagctggctg aacatggatt gaatgaaacc atccacatca gaggtgggtg ctttagttga  
1320  
cagttcacaa acttgtgtaa aggtttgtga aatgcatctt cttactgcat cagaccttc  
1380  
ttaagaatga aaccgaccac atggagggaa aaagaaaaca attctttctt ggattgggtt  
1440  
tttgagaagt ttactgaca attactgttc atcaaatctg aaatagtcac ctcacagctc  
1500  
ttcaaagaaa acctttgaaa gatttatatc taaaagctgt atttacttta aaagaagtgc  
1560  
ataattacca aaattgtatg tactattgta catttttaca acagcatttt cttaaacata  
1620  
atctgtgttt aatgattatt gtccattgag cctgtactct gctttccata ccaagtaa  
1680  
atgaaataat ctactttgca cataacagaa gaaactataa ttacttggct gttggagatt  
1740  
tgtacttgag tataaatgta caccagtttt tgtatttgtg aactcatctg tgggaggagt  
1800  
aaagaaaatc caaagcatt taatgttttg tttttgttct ataaagatat gaaaatgtat  
1860  
ttttatatta ttttacttat ttggaattta cagagcacac ctaagcaatt aggatataac  
1920

aaaactactt aaccattttt gcaaccattt tgttttttaa gcctttttat ttctaaaaag  
 1980  
 atgaaaactt ataaataaat tcttaatttg taattacttt taaaaaaaaa aaaaaaa  
 2037

<210> 4564

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4564

Val	Leu	Val	Trp	Glu	Leu	Asp	Trp	Asp	Leu	Glu	Asp	Leu	Ile	His	Ser
1				5					10					15	
Ser	Ser	Ser	Lys	Leu	Ala	Val	Gly	Tyr	Ser	Cys	Met	Pro	Ser	Asn	Lys
			20					25					30		
Asp	Glu	Asp	Gly	Leu	Val	Val	Leu	Val	Phe	Asn	Lys	Lys	Glu	Thr	Glu
			35				40					45			
Ile	Arg	Ser	Gln	Gln	Gln	Gln	Leu	Val	Glu	Ser	Leu	His	Lys	Val	Leu
			50			55					60				
Gly	Gly	Asn	Gln	Thr	Leu	Thr	Val	Asn	Val	Glu	Gly	Thr	Lys	Thr	Leu
65					70				75					80	
Pro	Asp	Asp	Gln	Thr	Glu	Val	Val	Ile	Tyr	Val	Val	Glu	Arg	Ser	Pro
			85					90					95		
Asn	Gly	Thr	Ser	Arg	Arg	Val	Pro	Ala	Thr	Thr	Leu	Tyr	Ala	His	Phe
			100				105					110			
Glu	Gln	Ala	Asn	Ile	Lys	Thr	Gln	Leu	Gln	Gln	Leu	Gly	Val	Thr	Leu
			115				120				125				
Ser	Met	Thr	Arg	Thr	Glu	Leu	Ser	Pro	Ala	Gln	Ile	Arg	Gln	Leu	Leu
			130			135				140					
Gln	Asn	Pro	Pro	Ala	Gly	Val	Asp	Pro	Ile	Ile	Trp	Glu	Gln	Ala	Lys
145					150				155					160	
Val	Asp	Asn	Pro	Asp	Ser	Glu	Lys	Leu	Ile	Pro	Val	Pro	Met	Val	Gly
			165					170					175		
Phe	Lys	Glu	Leu	Leu	Arg	Arg	Leu	Lys	Val	Gln	Asp	Gln	Met	Thr	Lys
			180				185					190			
Gln	His	Gln	Thr	Arg	Leu	Asp	Ile	Ile	Ser	Glu	Asp	Ile	Ser	Glu	Leu
			195			200					205				
Gln	Lys	Asn	Gln	Thr	Thr	Ser	Val	Ala	Lys	Ile	Ala	Gln	Tyr	Lys	Arg
		210				215				220					
Lys	Leu	Met	Asp	Leu	Ser	His	Arg	Thr	Leu	Gln	Val	Leu	Ile	Lys	Gln
225					230				235					240	
Glu	Ile	Gln	Arg	Lys	Ser	Gly	Tyr	Ala	Ile	Gln	Ala	Asp	Glu	Glu	Gln
			245					250					255		
Leu	Arg	Val	Gln	Leu	Asp	Thr	Ile	Gln	Gly	Glu	Leu	Asn	Ala	Pro	Thr
			260				265					270			
Gln	Phe	Lys	Gly	Arg	Leu	Asn	Glu	Leu	Met	Ser	Gln	Ile	Arg	Met	Gln
			275			280					285				
Asn	His	Phe	Gly	Ala	Val	Arg	Ser	Glu	Glu	Arg	Tyr	Tyr	Ile	Asp	Ala
			290			295				300					
Asp	Leu	Leu	Arg	Glu	Ile	Lys	Gln	His	Leu	Lys	Gln	Gln	Gln	Glu	Gly
305					310				315					320	
Leu	Ser	His	Leu	Ile	Ser	Ile	Ile	Lys	Asp	Asp	Leu	Glu	Asp	Ile	Lys
			325					330					335		
Leu	Val	Glu	His	Gly	Leu	Asn	Glu	Thr	Ile	His	Ile	Arg	Gly	Gly	Val

340 345 350  
 Phe Ser  
  
 <210> 4565  
 <211> 2344  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 4565  
 ntccggattg tcttggagaa cagtagccgg gaagacaaac atgaatgccc ctttggccgc  
 60  
 agtgccattg agctcaccaa aatgttctgt gaaatcctgc aggttgggga actaccaa  
 120  
 gaaggacgca atgactacca cccgatgttc ttaccatg accgagcctt tgaagagctc  
 180  
 tttggaatct gcacccagct gttgaacaag acctggaagg agatgagggc aacagcagag  
 240  
 gacttcaaca aggttatgca agtcgtccga gagcaaatca ctcgagcttt gccctccaaa  
 300  
 cccaactctt tggatcagtt caagagcaaa ttgcgtagcc tgagttactc tgagattcta  
 360  
 cgactgcgcc agtctgagag gatgagtcag gatgacttcc agtccccgcc aattgtggag  
 420  
 ctgagggaga agatccagcc cgagatcctt gagctgatca agcagcagcg cctgaaccgg  
 480  
 ctctgtgagg gcagcagctt ccgaaagatt ggggaaccgcc gaaggcaaga acggttctgg  
 540  
 tactgccggt tggcactgaa ccacaaggtc cttcactatg gtgacttggg tgacaaccca  
 600  
 caaggggagg tgacatttga atccctgcag gagaaaattc ctgttgacga cattaaggcc  
 660  
 attgtcactg ggaaagattg tccccacatg aaagagaaaa gtgctctgaa acagaacaag  
 720  
 gaggtgttgg aattggcctt ctccatcctg tatgaccctg atgagacctt aaacttcac  
 780  
 gcaccttaata aatatgagta ctgcatctgg attgacggcc tcagtgcctt tctggggaag  
 840  
 gacatgtcca gtgagctgac caagagtgac ctggacaccc tgctgagcat ggagatgaag  
 900  
 ctgcggctcc tggacctgga gaacatccag attccccgaag cccaccccc catccccaag  
 960  
 gagcccagca gctatgactt tgtctatcac tatggctgag cctggagcca gaaacgacgg  
 1020  
 taccaggag aagggatttt gggcccagga gaaacactta cattctgggt ccttgtcttt  
 1080  
 tgcttgatga gaatctgtag tgattttggt ggccagtaaa tgccagccat ttctcaaacc  
 1140  
 cacctcggac caccagagt ttctcttggg tccctgtcta ctaagagtca tgaaggcagg  
 1200  
 gtgtctgcc cactccatca ccatgaagcc tgggattggg ccacgaggaa caaacagcag  
 1260  
 atgcccttgc cttccagtcc aagaaactgc ttcttgaaat ggatttaaca acagccactc  
 1320

accttttccct cctgagcctg ctctctgatc agctggatcc ccacgtgagc aacagctggc  
 1380  
 ccaggaaagg ctgcctgcag aggacaggtg tgttgggcgt gttgagagcc ttgaagtga  
 1440  
 tacctgtatc ttagatctga gtacaagcct gaggttttg cttttgtctt ttttgatgag  
 1500  
 ggctcactcc agcttcatat ggtgccaaga cgttgctgct tctgaggttg gctctaact  
 1560  
 ctctggctct tagagccacc agatctctct ggcccatata gatatcagag cagacggaaa  
 1620  
 tttctccctg caagcgctca gtctcatccc agcaagtcaa agacctcctg gccaaagtcc  
 1680  
 gccctcttaa gtctccagga acgctgcagg gaaaaccag ctgaggcctg ggccatgact  
 1740  
 gtggtgaggt cactagattc tactgctctt ccccccacatt aatacctttt ccttctcag  
 1800  
 agagaaatct cccctaacct gaattgcagc ccctccagt ttgctttcct ttggccttcc  
 1860  
 agaccccgagg aagttggcct tcccttcccta gtgctatggt ttctgccatt ggccatgatt  
 1920  
 tcagggagct ggctgaggcc ggctgaggcc acacctgtgc cagtggggct tccctgggtc  
 1980  
 tgcagcactt gtaaaccaca cacacagcct ctctccctgg acatacgtta gcacattggc  
 2040  
 attcagtatt ggtggcctgg catggtaggt actaccaat gaagagtgtta ctatatatt  
 2100  
 tcattactat aggccatact tatacagacg tgtatatata tttatataag atctacctat  
 2160  
 cttaggatgg aaccttgggg aaaaataaaa ttgaggggaa gtaaaaagta tgtaacactt  
 2220  
 ccagttgtga gccaagattg taaccagaga gcagccagga gcttcctgtc agtaaccatg  
 2280  
 ttttcaataa atactctttc atgtacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2340  
 aaaa  
 2344

&lt;210&gt; 4566

&lt;211&gt; 247

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4566

Met	Gln	Val	Val	Arg	Glu	Gln	Ile	Thr	Arg	Ala	Leu	Pro	Ser	Lys	Pro
1				5					10					15	
Asn	Ser	Leu	Asp	Gln	Phe	Lys	Ser	Lys	Leu	Arg	Ser	Leu	Ser	Tyr	Ser
			20					25					30		
Glu	Ile	Leu	Arg	Leu	Arg	Gln	Ser	Glu	Arg	Met	Ser	Gln	Asp	Asp	Phe
		35				40					45				
Gln	Ser	Pro	Pro	Ile	Val	Glu	Leu	Arg	Glu	Lys	Ile	Gln	Pro	Glu	Ile
	50				55						60				
Leu	Glu	Leu	Ile	Lys	Gln	Arg	Leu	Asn	Arg	Leu	Cys	Glu	Gly	Ser	
65				70				75					80		
Ser	Phe	Arg	Lys	Ile	Gly	Asn	Arg	Arg	Gln	Glu	Arg	Phe	Trp	Tyr	

```

<400> 4567
gcggccgcct ccgcgatgcc gctgctcgtc gaggggcggc gagtgcggct gccgcagtca
60
gccgggggacc tcgtccgagc ccacccgcct ttggaggaaa gagccagact tctcagagggt
120
cagtctgttc aacaagtggg accccagggc cttctgtatg ttcagcaaag agagcttgca
180
gtgacctccc caaaggatgg ctccatctcc attctggggt ctgatgatgc cactacttgt
240
cacattgttg tcctgaggca cacaggtaat ggggccacct gcttgacaca ttgtgacgga
300
accgacacca aagctgagggt ccccttgatc atgaactcca taaaatcctt ttctgaccac
360
gctcaatgtg gaaggtgaga tctacgtgc tctcataggc tggaagtaca ccttgttgga
420
ggcttcagtg acgacaggca gttgtcacia aaactcactc atcaacttct tagtgaattt
480
gacaggcaag aagatgacat tcacttagtg acattatgtg tgacagaatt aaatgaccgg
540
gaagaaaacg aaaaccactt tccagtaata tatggcattg ctgtcaacat taagactgca
600
gagatttaca gagcatcctt tcaagatcgg ggtccggagg agcagcttcg tgctgcgcga
660
actttagcag gaggaccaat gattagcatt tatgatgcag agacagaaca acttcgtata
720
ggaccgtact cctggacacc atttcacat gtggatttct gggtgcacca agatgacaag
780

```

caaatactag agaatctttc cacttcgcct ctggctgagc caccaccactt tgttgaacat  
 840  
 attagatcta ccttgatggt ttttaaaaaa caccatctc cagctcacac actgttttct  
 900  
 ggaaataaag ccctactcta caaaaaaaat gaagatggct tgtgggaaaa gatctcttct  
 960  
 ccaggaagtt aaaaaacatg aattaccaa gaaagcacct tcttggcctg acagaccatt  
 1020  
 ggtggggctg gcacgaatcc agatctggaa cctacatctg ttgggtctta ggtcttctcc  
 1080  
 ttccttctc agtgtttttc aaatgacttt catcaaata ctttcaaaat aaaaccttat  
 1140  
 tttggcaaag gcaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1200  
 aaaaaaaaaa a  
 1211

<210> 4568

<211> 120

<212> PRT

<213> Homo sapiens

<400> 4568

Met	Pro	Leu	Leu	Val	Glu	Gly	Arg	Arg	Val	Arg	Leu	Pro	Gln	Ser	Ala
1				5					10					15	
Gly	Asp	Leu	Val	Arg	Ala	His	Pro	Pro	Leu	Glu	Glu	Arg	Ala	Arg	Leu
			20					25					30		
Leu	Arg	Gly	Gln	Ser	Val	Gln	Gln	Val	Gly	Pro	Gln	Gly	Leu	Leu	Tyr
		35					40					45			
Val	Gln	Gln	Arg	Glu	Leu	Ala	Val	Thr	Ser	Pro	Lys	Asp	Gly	Ser	Ile
	50					55				60					
Ser	Ile	Leu	Gly	Ser	Asp	Asp	Ala	Thr	Thr	Cys	His	Ile	Val	Val	Leu
65					70					75				80	
Arg	His	Thr	Gly	Asn	Gly	Ala	Thr	Cys	Leu	Thr	His	Cys	Asp	Gly	Thr
			85					90						95	
Asp	Thr	Lys	Ala	Glu	Val	Pro	Leu	Ile	Met	Asn	Ser	Ile	Lys	Ser	Phe
		100					105						110		
Ser	Asp	His	Ala	Gln	Cys	Gly	Arg								
		115					120								

<210> 4569

<211> 1797

<212> DNA

<213> Homo sapiens

<400> 4569

nttttttttt tttttttttt tttttttttt ttttttttaa aaatcggcat gtccttttat  
 60  
 ttgttcagaa gagcagccag catcaccctc gccactcaaa cctggcacat acgcttcgga  
 120  
 gacaatggcc tcgggaccct catgctgctg ggcccaggag agacagttct gaggcagaaa  
 180  
 ctcggcgctc aagggggggc gcgggtcagg cactgtggtg aagggaaacgc cggggagtcc  
 240

ggccccacct tgcagctggg gacacggggg cgcaaacaga gggggcaggc tagtgtcccc  
300  
ctgccccagg aacagacctc agggccccag gagggctctgc aggcagctag gagcctgcc  
360  
agtgtctggtg gaagtagagg ccgaaaaggc tggcgagcag ctggcaggca gccgtccacc  
420  
agatgaggta ggccaggacg ccacggagga agaggggagt aagcaggcca cccagggccc  
480  
cggcaatccg cgctgcagtc tgctggactt cgtcctcccc agagccgann tgggggcagc  
540  
gctggctgag ganntgggtc gggggatagt agaggagctg ggcccaggcc ccaggaatag  
600  
cctcccagcg tcttgagcag aagtgtgcag ttgagggtga ggatgagcgc gtcaggtact  
660  
gcaagctcac cacggtcaca tagcagtaga ctcggaccac cctctgctgg atttcacggg  
720  
cttcgatgcg gccagcctcc cttcgcagct gtcacacccg ggccttgcc aggcacaggt  
780  
aggcctgcag gtggggcccg gtcaccgcca gccgcagcag gcacagcacc accagcaacc  
840  
agaggcgccc agagtcgaag gcagaatcgg acagcaggga gaaacgcgtc tncccaaac  
900  
ggcggctggt gcaggaagtc ccgtgcaatg ggctttgtcc agagccacag gatgaacagg  
960  
ggagacagga agctggtgtg caggaggaac tgcagcatgg gtctgtcctc cgacatggtc  
1020  
agtgcgtccc ggtgggtctg ggccagccgc aggcctggga aggtgaggaa ggcaccagc  
1080  
acagagccca cactgccag tcccacgcgg atagccagct tggccacagg aagcgcccag  
1140  
tccagccct gcttcttcag aagtggctct aagttctggg tcatgctggc cagaccaggc  
1200  
tccaggccca gctcgagggt ctctcccg accacttgca ccagcatggc cagcagcagg  
1260  
aagaggaagg caaaggtag gacagacag cgctcacccc cctctcggc gctgaagtac  
1320  
agccgtgtca ctgtcaggaa catcttgatg gagaaggta ccgtgagcag gcaccagaac  
1380  
acagcaatgt tagtctcctt ggctggctcc agcatgtagt agtaggcctc tgtgaagagg  
1440  
tacacgccgc ccgagtacac agcaaagtcc acaaaccact ggtactccag gaagaagcgc  
1500  
aggaccagg catccacggc cgtgaggggg cagggtctcca gctggaacgg ggcattctcg  
1560  
ggcacagaca gtggcttctc ctactaagg ccattggccc accgctcttt cctgcctctg  
1620  
ggcctcggct tccccgccag ggcccgaagc tctcctcag acgggtgctt gtatcggaac  
1680  
aaactgccgt tacagagcag ccagcgcgcg aaggagcagt gtggcgccag cctgtgcatg  
1740  
aggggtggcag tgagcagggt caccaccagc tgtactccga ggaccgccat gacgcgt  
1797

&lt;210&gt; 4570

<211> 141  
 <212> PRT  
 <213> Homo sapiens

<400> 4570

Xaa	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Phe	Leu	Lys	Ile	Gly
1				5				10						15	
Met	Leu	Leu	Tyr	Leu	Phe	Arg	Arg	Ala	Ala	Ser	Ile	Thr	Leu	Ala	Thr
			20					25					30		
Gln	Thr	Trp	His	Ile	Arg	Phe	Gly	Asp	Asn	Gly	Leu	Gly	Thr	Leu	Met
		35					40					45			
Leu	Leu	Gly	Pro	Gly	Glu	Thr	Val	Leu	Arg	Gln	Lys	Leu	Gly	Val	Gln
	50					55					60				
Gly	Gly	Pro	Arg	Val	Arg	His	Cys	Gly	Glu	Gly	Asn	Ala	Gly	Glu	Ser
65					70					75				80	
Gly	Pro	Thr	Leu	Gln	Leu	Gly	Thr	Arg	Gly	Arg	Lys	Gln	Arg	Gly	Gln
			85					90					95		
Ala	Ser	Val	Pro	Leu	Pro	Gln	Glu	Gln	Thr	Ser	Gly	Pro	Gln	Glu	Gly
			100					105					110		
Leu	Gln	Ala	Ala	Arg	Ser	Leu	Pro	Ser	Ala	Gly	Gly	Ser	Arg	Gly	Arg
		115					120					125			
Lys	Gly	Trp	Arg	Ala	Ala	Gly	Arg	Gln	Pro	Ser	Thr	Arg			
	130						135					140			

<210> 4571  
 <211> 1084  
 <212> DNA  
 <213> Homo sapiens

<400> 4571

```

ngcgcgccgc catgggcctg gccgggctgc aggagaacgt atttaccggg cagtcaaaga
60
tctattccta catgagcccg aacaaatgct ctggaatgcg tttccccctt caggaagaga
120
actcagttac acatcacgaa gtcaaatgcc aggggaaacc attagccgga atctacagga
180
aacgagaaga gaaaagaaat gctgggaacg cagtacggag cgccatgaag tccgaggaac
240
agaagatcaa agacgccagg aaaggtcccc tggtaccttt tccaaaccaa aaatctgaag
300
cagcagaacc tccaaaaact ccaccctcat cttgtgattc caccaatgca gccatcgcca
360
agcaagccct gaaaaagccc atcaagggca aacaggcccc ccgaaaaaaaa agctcaagga
420
aaaacgcaac agaatcgcaa acttacggat ttctaccctg tccgaaggag ctccaggaag
480
agcaagcccg agctgcagtc tgaagaaagg aaaagaatag atgaattgat tgaaagtggg
540
aaggaagaag gaatgaagat tgacctcatc gatggcaaag gcagggggtg gattgccacc
600
aagcagttct cccgggggtga ctttgtgggtg gaataccacg gggacctcat cgagatcacc
660
gacgccaaga aacggggaggc tctgtacgca caggaccctt ccacgggctg ctacatgtac
720

```



tattttcagt atctgagcaa aacctactgg tgagtccact gttgcttaga gtggcttttc  
 780  
 tgtcctctgg gcagtgagga gaggccaaag ggccaggaac tcctgattct gtttggtggc  
 840  
 cagtcttttg gttttgttgt tggtgacttt ttttttttta ttttttgaga tggagtcttg  
 900  
 ctctgttgcc caggctggag tgcagtgggtg tgatctcggc tcattgcaac ctcctctcag  
 960  
 gctcaaagaa ttctcctccc tcagcctcca gagtagccca gctaattttt tttttctgta  
 1020  
 ttttttagtag aggtggagtt ttgccacatt ggccaagctg gtcttgaact cctgacctca  
 1080  
 gacc  
 1084

<210> 4572

<211> 126

<212> PRT

<213> Homo sapiens

<400> 4572

Lys	Ser	Pro	Ser	Arg	Ala	Asn	Arg	Pro	Pro	Glu	Lys	Lys	Ala	Gln	Gly
1				5				10						15	
Lys	Thr	Gln	Gln	Asn	Arg	Lys	Leu	Thr	Asp	Phe	Tyr	Pro	Val	Arg	Arg
		20					25						30		
Ser	Ser	Arg	Lys	Ser	Lys	Ala	Glu	Leu	Gln	Ser	Glu	Glu	Arg	Lys	Arg
		35					40						45		
Ile	Asp	Glu	Leu	Ile	Glu	Ser	Gly	Lys	Glu	Glu	Gly	Met	Lys	Ile	Asp
	50				55						60				
Leu	Ile	Asp	Gly	Lys	Gly	Arg	Gly	Val	Ile	Ala	Thr	Lys	Gln	Phe	Ser
65				70					75					80	
Arg	Gly	Asp	Phe	Val	Val	Glu	Tyr	His	Gly	Asp	Leu	Ile	Glu	Ile	Thr
			85					90					95		
Asp	Ala	Lys	Lys	Arg	Glu	Ala	Leu	Tyr	Ala	Gln	Asp	Pro	Ser	Thr	Gly
			100				105						110		
Cys	Tyr	Met	Tyr	Tyr	Phe	Gln	Tyr	Leu	Ser	Lys	Thr	Tyr	Trp		
		115					120						125		

<210> 4573

<211> 309

<212> DNA

<213> Homo sapiens

<400> 4573

cccggagatg gaggcctcca ggaccaagtc ggtgcttggg ggcttcccgg gccaccggc  
 60  
 cccaagggag atgccggcag tcggggccca atggggatga yaggccacc aggtccacag  
 120  
 ggccccccag ggagccctgg ccgggctgga gctgtgggca cccctggaaa aaggggacct  
 180  
 tctggccac aaggccttct tggccccctt gggccccag cccctgttgg gccacccat  
 240  
 gcccgatct cccagcatgg agatccattg ctgtccaaca ccttactga gaccaacccc  
 300

ttcacgcgt  
309

<210> 4574  
<211> 103  
<212> PRT  
<213> Homo sapiens

<400> 4574  
Pro Gly Asp Gly Gly Leu Gln Asp Gln Val Gly Ala Trp Gly Leu Pro  
1 5 10 15  
Gly Pro Thr Gly Pro Lys Gly Asp Ala Gly Ser Arg Gly Pro Met Gly  
20 25 30  
Met Arg Gly Pro Pro Gly Pro Gln Gly Pro Pro Gly Ser Pro Gly Arg  
35 40 45  
Ala Gly Ala Val Gly Thr Pro Gly Lys Arg Gly Pro Ser Gly Pro Gln  
50 55 60  
Gly Leu Leu Gly Pro Pro Gly Pro Pro Ala Pro Val Gly Pro Pro His  
65 70 75 80  
Ala Arg Ile Ser Gln His Gly Asp Pro Leu Leu Ser Asn Thr Phe Thr  
85 90 95  
Glu Thr Asn Pro Phe Thr Arg  
100

<210> 4575  
<211> 1068  
<212> DNA  
<213> Homo sapiens

<400> 4575  
nttttttttt tttaaagttag gtagtagga ggagggggccc cagctgccct gcattcactg  
60  
cactcaccca aagcgctggt gtttgtag ggtgtacagc aggtagtcag ccattggtctc  
120  
ctccccgacc aggtggtcca gcaccgttcc acacagggcc agcttcaggc ctgtctccac  
180  
actttcaatc cgaggagcca gcacgccagg agtgtccaac aggaacatca ggggcccgtc  
240  
agagacctga attttggaca tcacagctct ggtgatcca ggctcgccac ccacctggt  
300  
ggctttccct ttctgaggt gctgcctccg gagggagttg atgagggagg acttgcccac  
360  
gttggggacc ccaatgacca tgatacagta ctccagggtc tcttttcggt ggtagcgggtg  
420  
gcttctccca atcagttcag tgaccatcgg gatgatctgc ttgacatttt catcctttac  
480  
acagttggta aaaatgacat ttttaggcc ttctcttct aagtgttgca taattttctg  
540  
ctgctctgta agatccgcca agtccatctt gttgaggacc agcaagttag gcttaagccc  
600  
aagggtttcc tgaaacagag ggttgccggc tgaaagtggg atccgggcat cgtggacctc  
660  
gatgatacag tccaccagct tcaggctgct ctgcattctc ttcagccctc tggccatgtg  
720

gcccggaac cagcgcgcca cgtcgcgacc gcacaggggg aagttctccc gccaggcggc  
 780  
 ctgggcggcg ctgcacagcg cgcgcggggt caatctcatg gcggcaccgt ccccggaac  
 840  
 gctcccgag ctgaccttct cgctctgtcg cccaggctgg aacgcagtgg cacaatctca  
 900  
 actcactgca agctccgcct cccgggttca cgccattctc ctgcctcagc ctctaagtg  
 960  
 gctgggacta caggtgcccg ccaccacacc cacctaattt tcgtattttt agtagagacg  
 1020  
 gggtttcacc gtttcagcaa gaatggtctc aatctcctga cctcatga  
 1068

<210> 4576

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4576

Lys	Trp	Asp	Pro	Gly	Ile	Val	Asp	Leu	Asp	Asp	Thr	Val	His	Gln	Leu
1				5				10						15	
Gln	Ala	Ala	Leu	His	Leu	Leu	Gln	Pro	Leu	Gly	His	Val	Ala	Arg	Glu
		20					25						30		
Pro	Ala	Arg	His	Val	Ala	Thr	Ala	Gln	Gly	Glu	Val	Leu	Pro	Pro	Gly
		35					40					45			
Gly	Leu	Gly	Gly	Ala	Ala	Gln	Arg	Ala	Arg	Gly	Gln	Ser	His	Gly	Gly
	50				55						60				
Thr	Val	Pro	Gly	Asn	Ala	Pro	Ala	Ala	Asp	Leu	Leu	Ala	Leu	Ser	Pro
65				70					75					80	
Arg	Leu	Glu	Arg	Ser	Gly	Thr	Ile	Ser	Thr	His	Cys	Lys	Leu	Arg	Leu
			85					90						95	
Pro	Gly	Ser	Arg	His	Ser	Pro	Ala	Ser	Ala	Ser					
			100					105							

<210> 4577

<211> 3525

<212> DNA

<213> Homo sapiens

<400> 4577

nggcaaggaa ataattattc tgattggtga aactcccagc tcaaaattag agttgtatta  
 60  
 ctaacgaaga agagactggc tatggagggg cacgatttca gaggtgcttc tgagctgctc  
 120  
 gtgctgacct cagccctgtc cttcctgcag accctgctga aggtcgtgta cgtggagaat  
 180  
 gacatccagc acctgcagga catgtcacac ttcccagacc gggggagcga gaatgggaca  
 240  
 cccatggacg tgaaagccgg ggtgcgggtc atgcaggtea gtcctgacgg ccagcatttg  
 300  
 gtttcaggcg accgaagtgg aaatctgagg caagtgggcc ctggcagtgt ccagtgtaca  
 360  
 cttcccagct ccagctcagg ttctcagggc agtgggcaga agccctggcc ttggcacctc  
 420

ctgctgcccc ttgggaatga ggggctgac cagagctgc acttcatgga cgagctggtc  
480  
aaggtggagg cccatgatgc tgaggtgctg tgccctggagt actccaagcc agagacgggg  
540  
ctgaccttgc tggcctcagc cagtcgggac cggctgatcc atgtgctgaa cgtggagaag  
600  
aactacaacc tggagcagac gctggatgac cactcctcct ccatcaccgc catcaagttc  
660  
gctggcaaca gagacatcca gatgatcagc tgtggggctg acaagagcat ctactttcgc  
720  
agtgtccagc aggggttcgga tggactacac tttgtccgta cccaccacgt agcagagaaa  
780  
accaccttgt atgacatgga cattgacatc acccagaagt acgtggccgt ggctgcccag  
840  
gaccgcaatg tgagagtcta caacactgtg aacgggaagc agaagaagtg ctacaagggc  
900  
tcccaggggtg acgaaggggc cttgctgaag gtccatgtgg acccctcagg caccttctctg  
960  
gccaccagct gctctgacaa aagcatctca gtgattgact tttactcggg cgagtgcatt  
1020  
gccaagatgt ttggccattc aggtgggtgt gcctctctgc ttgggatgcc tccccacccg  
1080  
cccacaccct ctgactccga aggcaagtgc agcctctctg ctttgtttgc agaaattatt  
1140  
accagcatga agttcaccta tgactgtcat cacttgatca cagtatctgg agacagctgc  
1200  
gtgttcatct ggcacctggg cccggagatc accaactgca tgaagcagca cttgctggag  
1260  
attgaccacc ggcagcagca gcagcacaca aatgacaaga agcggagtgg ccaccccagg  
1320  
tcctggcagc ccctgcctgt ccaccagagg gatgagtccc tgccagggcc ccatggagtg  
1380  
atgtggggga cacaatcttc gttgcctgct aaccaacggc aagctgccac tgtgggcaaa  
1440  
gctggctggg acgatgatgt ggcagatggc ttggccttcc acgccaagcg cagctaccag  
1500  
ccccacggcc gctgggcaga gctggccggc caagagcccc tcaagaccat cctggatgcc  
1560  
caggacctgg attgctactt tcccccatg aagcccgaga gtctggagaa ctccattctg  
1620  
gattcactgg agccacagag cctggccagc ctgctgagtg agcagaagga atcatctgag  
1680  
gccagtgage tcactctcta ctctctggag gcagaagtga cagtcacagg gacagacagc  
1740  
cagtattgca ggaaggaggt ggaggccggg cctggagacc agcagggcga ctctacctc  
1800  
aggtgtctct ccgacagccc aaaggaccag agcccgcctg aggttccac agaagatgag  
1860  
ctgtccctgc ccgagggacc cagcgtcccc agcagctccc taccacagac tccggagcag  
1920  
gagaagtctc tccgccacca ctttgagaca ctgactgagt cccctgcag agctctggga  
1980  
gacgtggagg cctctgaagc tgaagaccac ttcttcaacc cagcctgag tatctccag  
2040

cagttcctct caagcctcca gaaggcatcc aggttcaccc ataccttccc tccccgggca  
2100  
accagtgcc ttgtgaagtc tccagaggtc aagctcatgg accgaggcgg aagccagccc  
2160  
agagcaggta ctggctacgc ctccccagac aggacccact cagtgccatc tgcttcggtt  
2220  
acagctccct gccttacgag cctggcgctc tgtgtccctg ctctctcgt gctgcccaca  
2280  
gacaggaatc tcccaacgcc cacatctgca cccaccccag gcctgggtca ggggtgccat  
2340  
gccccctcca cctgttccta catggaggcc actgccagct cccgtgccag gatatcacgc  
2400  
agcatctccc tcggtgacag tgagggccct atcgtggcca cactggcca gccctccgt  
2460  
aggccatcgt ccgttgggga gctggcctcc ttgggccagg agcttcaggc catcaccacc  
2520  
gcgacaacac ccagtttga cagtgagggc caagagcctg ccctgcgttc ctggggcaac  
2580  
cacgaggccc gggccaacct gagactgacc ctgtcaagtg cctgtgatgg gtcctgcag  
2640  
cccccggtgg ataccagcc tggcgtcacc gtccctgcag tgagcttccc agcccctagc  
2700  
cctgtggaag agagcgccct gaggtccac ggctctgcct ttcgcccagg tctcccagct  
2760  
cctgagtcct ctggccttcc tgcccccccc agtaaccccc agcttccaga ggcccggcct  
2820  
ggcatccctg gcggcactgc ctccctcctg gagccccact ccgggtgggg aacatcttgc  
2880  
acaggtgca gaccacctc caagaagccc tcgacctta ccgtgtgttg gtctccagt  
2940  
gccaggtgga caccgggcag cagcaggcac ggactgagct ggtctccacc ttcctgtgga  
3000  
tccacagcca gctggaggct gaatgcctgg tggggactag tgtggcccca gccaggctc  
3060  
tgcccagccc aggacccccg tccccaccga cgctgtaccc cctggccagc ccagacctgc  
3120  
aggccctgct ggaacactac tcggagctgc tgggtgcaggc cgtgcggagg aaggcacggg  
3180  
ggcactgagg gcgcagcccc tccaccgcag ccctgctgct tctgaggact taggtatttt  
3240  
aagcgaataa actgacagct ttgaggaatg gttcctggtg tctgtttggg cctatccaca  
3300  
aagccctctt caagtggaag tggggaggga gggtagaagg tgatgccag aggactcgtg  
3360  
tctgtcagtg gagagcatgg gaccagcgct cccaagaagt tcaggaactg cagccatgac  
3420  
ctcagggccca gtctctccac actgccaca gagctgccac agaccagtgt gaggtgctta  
3480  
cccagtgggg ccattttgtg ccccaggag gagccagacc ctctt  
3525

&lt;210&gt; 4578

&lt;211&gt; 1007

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4578

```

Met Ser His Phe Pro Asp Arg Gly Ser Glu Asn Gly Thr Pro Met Asp
 1          5          10          15
Val Lys Ala Gly Val Arg Val Met Gln Val Ser Pro Asp Gly Gln His
 20          25          30
Leu Ala Ser Gly Asp Arg Ser Gly Asn Leu Arg Gln Val Gly Pro Gly
 35          40          45
Ser Val Gln Cys Thr Pro Pro Ser Ser Ser Ser Gly Ser Gln Gly Ser
 50          55          60
Gly Gln Lys Pro Trp Pro Trp His Leu Leu Leu Pro Ile Gly Asn Glu
 65          70          75          80
Gly Leu Ile His Glu Leu His Phe Met Asp Glu Leu Val Lys Val Glu
 85          90          95
Ala His Asp Ala Glu Val Leu Cys Leu Glu Tyr Ser Lys Pro Glu Thr
 100          105          110
Gly Leu Thr Leu Leu Ala Ser Ala Ser Arg Asp Arg Leu Ile His Val
 115          120          125
Leu Asn Val Glu Lys Asn Tyr Asn Leu Glu Gln Thr Leu Asp Asp His
 130          135          140
Ser Ser Ser Ile Thr Ala Ile Lys Phe Ala Gly Asn Arg Asp Ile Gln
 145          150          155          160
Met Ile Ser Cys Gly Ala Asp Lys Ser Ile Tyr Phe Arg Ser Ala Gln
 165          170          175
Gln Gly Ser Asp Gly Leu His Phe Val Arg Thr His His Val Ala Glu
 180          185          190
Lys Thr Thr Leu Tyr Asp Met Asp Ile Asp Ile Thr Gln Lys Tyr Val
 195          200          205
Ala Val Ala Cys Gln Asp Arg Asn Val Arg Val Tyr Asn Thr Val Asn
 210          215          220
Gly Lys Gln Lys Lys Cys Tyr Lys Gly Ser Gln Gly Asp Glu Gly Ser
 225          230          235          240
Leu Leu Lys Val His Val Asp Pro Ser Gly Thr Phe Leu Ala Thr Ser
 245          250          255
Cys Ser Asp Lys Ser Ile Ser Val Ile Asp Phe Tyr Ser Gly Glu Cys
 260          265          270
Ile Ala Lys Met Phe Gly His Ser Gly Gly Cys Ala Ser Leu Leu Gly
 275          280          285
Met Pro Pro His Pro Pro Thr Pro Ser Asp Ser Glu Gly Lys Cys Ser
 290          295          300
Leu Ser Ala Leu Phe Ala Glu Ile Ile Thr Ser Met Lys Phe Thr Tyr
 305          310          315          320
Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe Ile
 325          330          335
Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu Leu
 340          345          350
Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys Arg
 355          360          365
Ser Gly His Pro Arg Ser Trp Gln Pro Leu Pro Val His Gln Arg Asp
 370          375          380
Glu Ser Leu Pro Gly Pro His Gly Val Met Leu Gly Thr Gln Ser Ser
 385          390          395          400
Leu Pro Ala Asn Gln Arg Gln Ala Ala Thr Val Gly Lys Ala Ala Gly

```

405 410 415  
 Asp Asp Asp Val Ala Asp Gly Leu Ala Phe His Ala Lys Arg Ser Tyr  
 420 425 430  
 Gln Pro His Gly Arg Trp Ala Glu Arg Ala Gly Gln Glu Pro Leu Lys  
 435 440 445  
 Thr Ile Leu Asp Ala Gln Asp Leu Asp Cys Tyr Phe Thr Pro Met Lys  
 450 455 460  
 Pro Glu Ser Leu Glu Asn Ser Ile Leu Asp Ser Leu Glu Pro Gln Ser  
 465 470 475 480  
 Leu Ala Ser Leu Leu Ser Glu Gln Lys Glu Ser Ser Glu Ala Ser Glu  
 485 490 495  
 Leu Ile Leu Tyr Ser Leu Glu Ala Glu Val Thr Val Thr Gly Thr Asp  
 500 505 510  
 Ser Gln Tyr Cys Arg Lys Glu Val Glu Ala Gly Pro Gly Asp Gln Gln  
 515 520 525  
 Gly Asp Ser Tyr Leu Arg Val Ser Ser Asp Ser Pro Lys Asp Gln Ser  
 530 535 540  
 Pro Pro Glu Gly Pro Thr Glu Asp Glu Leu Ser Leu Pro Glu Gly Pro  
 545 550 555 560  
 Ser Val Pro Ser Ser Ser Leu Pro Gln Thr Pro Glu Gln Glu Lys Phe  
 565 570 575  
 Leu Arg His His Phe Glu Thr Leu Thr Glu Ser Pro Cys Arg Ala Leu  
 580 585 590  
 Gly Asp Val Glu Ala Ser Glu Ala Glu Asp His Phe Phe Asn Pro Arg  
 595 600 605  
 Leu Ser Ile Ser Thr Gln Phe Leu Ser Ser Leu Gln Lys Ala Ser Arg  
 610 615 620  
 Phe Thr His Thr Phe Pro Pro Arg Ala Thr Gln Cys Leu Val Lys Ser  
 625 630 635 640  
 Pro Glu Val Lys Leu Met Asp Arg Gly Gly Ser Gln Pro Arg Ala Gly  
 645 650 655  
 Thr Gly Tyr Ala Ser Pro Asp Arg Thr His Ser Val Pro Ser Ala Ser  
 660 665 670  
 Val Thr Ala Pro Cys Leu Thr Ser Leu Ala Ser Cys Val Pro Ala Ser  
 675 680 685  
 Ser Val Leu Pro Thr Asp Arg Asn Leu Pro Thr Pro Thr Ser Ala Pro  
 690 695 700  
 Thr Pro Gly Leu Ala Gln Gly Val His Ala Pro Ser Thr Cys Ser Tyr  
 705 710 715 720  
 Met Glu Ala Thr Ala Ser Ser Arg Ala Arg Ile Ser Arg Ser Ile Ser  
 725 730 735  
 Leu Gly Asp Ser Glu Gly Pro Ile Val Ala Thr Leu Ala Gln Pro Leu  
 740 745 750  
 Arg Arg Pro Ser Ser Val Gly Glu Leu Ala Ser Leu Gly Gln Glu Leu  
 755 760 765  
 Gln Ala Ile Thr Thr Ala Thr Thr Pro Ser Leu Asp Ser Glu Gly Gln  
 770 775 780  
 Glu Pro Ala Leu Arg Ser Trp Gly Asn His Glu Ala Arg Ala Asn Leu  
 785 790 795 800  
 Arg Leu Thr Leu Ser Ser Ala Cys Asp Gly Leu Leu Gln Pro Pro Val  
 805 810 815  
 Asp Thr Gln Pro Gly Val Thr Val Pro Ala Val Ser Phe Pro Ala Pro  
 820 825 830  
 Ser Pro Val Glu Glu Ser Ala Leu Arg Leu His Gly Ser Ala Phe Arg

835                      840                      845  
 Pro Ser Leu Pro Ala Pro Glu Ser Pro Gly Leu Pro Ala His Pro Ser  
 850                      855                      860  
 Asn Pro Gln Leu Pro Glu Ala Arg Pro Gly Ile Pro Gly Gly Thr Ala  
 865                      870                      875                      880  
 Ser Leu Leu Glu Pro Thr Ser Gly Trp Gly Thr Ser Cys Thr Gly Cys  
 885                      890                      895  
 Arg Pro Pro Ser Lys Lys Pro Ser Thr Phe Thr Val Cys Trp Ser Pro  
 900                      905                      910  
 Val Ala Arg Trp Thr Pro Gly Ser Ser Arg His Gly Leu Ser Trp Ser  
 915                      920                      925  
 Pro Pro Ser Cys Gly Ser Thr Ala Ser Trp Arg Leu Asn Ala Trp Trp  
 930                      935                      940  
 Gly Leu Val Trp Pro Gln Pro Arg Leu Cys Pro Ala Gln Asp Pro Arg  
 945                      950                      955                      960  
 Pro His Arg Arg Cys Thr Pro Trp Pro Ala Gln Thr Cys Arg Pro Cys  
 965                      970                      975  
 Trp Asn Thr Thr Arg Ser Cys Trp Cys Arg Pro Cys Gly Gly Arg His  
 980                      985                      990  
 Gly Gly Thr Glu Gly Ala Ala Pro Pro Pro Gln Pro Cys Cys Phe  
 995                      1000                      1005

&lt;210&gt; 4579

&lt;211&gt; 321

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4579

nncaagatgt ttggccattc agaaattatt accagcatga agttcaccta tgactgtcat  
 60  
 cacttgatca cagtatctgg agacagctgc gtgttcattc ggcacctggg cccggagatc  
 120  
 accaactgca tgaagcagca cttgctggag attgaccacc ggcagcagca gcagcacaca  
 180  
 aatgacaaga agcggagtgg cccccccagg caggatacgt atgtgtccac acctagttag  
 240  
 attcactccc tgagccctgg agagcaaaca gaggatgatc tggaggaaga gtgtgagcca  
 300  
 gaagagatgc tgaagacacc n  
 321

&lt;210&gt; 4580

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4580

Xaa Lys Met Phe Gly His Ser Glu Ile Ile Thr Ser Met Lys Phe Thr  
 1                      5                      10                      15  
 Tyr Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe  
 20                      25                      30  
 Ile Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu  
 35                      40                      45  
 Leu Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys



50		55		60
Arg Ser Gly Pro Pro Arg Gln Asp Thr Tyr Val Ser Thr Pro Ser Glu				
65		70		75
Ile His Ser Leu Ser Pro Gly Glu Gln Thr Glu Asp Asp Leu Glu Glu				80
	85		90	95
Glu Cys Glu Pro Glu Glu Met Leu Lys Thr Pro				
	100		105	

&lt;210&gt; 4581

&lt;211&gt; 1396

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4581

```

nngtcgccgg ggccaaggcg gcagagtcag agcgggagcc gaagtcggag caggagccat
60
ggggcgcgaa accgacggcg ccgggaggac gagggacggc gcagacggag gcggcgaggc
120
cgggagcgca ggtcagattc agaggaagag cgggtggcagc gctcagggat gcgaagccgg
180
agccccccgc ggccaagtg gcaactcaaga gatgggtcct ctcaagtcgga ctcaaggagag
240
gagcagtcac ggggccagtg ggctcgccgg cgacggcgcg cacgctcgtg gtctcctagc
300
tcctcagcat ccagctcggc gtctccaggg cgatcccaga gccccgggc ggccgcggtc
360
gccctgagcc agcagcagag cctgcaggag cggctgcggc tgcgggagga gcggaagcag
420
caggaggagc tgatgaaggc cttcgagacg cccgaggaga agcgcgcacg gcggctggcc
480
aagaaggagg ccaaggagcg caagaagcgg gagaagatgg gctgggggtga ggagtacatg
540
ggctacacca acaccgacaa ccccttcgga gacaacaacc tgctgggcac cttcatctgg
600
aataaggccc tggagaagaa ggggatcagc cacctggagg agaaggagct gaaggagcgg
660
aacaagagga tccaggagga caaccggctg gagctgcaga aggtgaagca gctgcggctg
720
gagcgggagc gggagaaggc catgcgcgag caggagctgg agatgctgca gcgcgtgaag
780
gggacagagc acttcaagac atgggaggag caggaggaca acttcacact ccagcaggcc
840
aagctgcgtt ccaagatccg catccgggac gggcgggcca agcccatcga cctgctggcc
900
aagtacatca gcgctgagga tgacgatctg gccggggaga tgcagtagcc ctacacgttc
960
ctcaacggcc tcaccgtggc cgacatggag gacctgctgg aggatatcca ggtctacatg
1020
gagctggagc agggcaagaa cgccgacttc tggcgggaca tgaccacat caccgaggac
1080
gagatctcca agctccgcaa gctggaggcc tcgggcaagg ggccaggatga gcgccgcgag
1140
gggggtcaacg cctccgtcag ctctgatgtg cagtcggtgt tcaaggggaa gacatacaac
1200

```

cagctgcagg tcattctcca gggcatcgag ggcaaaatcc gcgctggtgg ccccaacctg  
 1260  
 gacatgggct actgggagag cctcctgcag cagcttcgtg cccacatggc gcggggcccg  
 1320  
 ctgcgtgagc gccaccagga cgtgctgcgg cagaagctgt acaaactgaa gcaggagcag  
 1380  
 ggcgtggaga gctagc  
 1396

<210> 4582

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4582

Arg	Ser	Gln	Ser	Pro	Arg	Ala	Ala	Ala	Ala	Ala	Leu	Ser	Gln	Gln	Gln
1				5					10					15	
Ser	Leu	Gln	Glu	Arg	Leu	Arg	Leu	Arg	Glu	Glu	Arg	Lys	Gln	Gln	Glu
		20					25						30		
Glu	Leu	Met	Lys	Ala	Phe	Glu	Thr	Pro	Glu	Glu	Lys	Arg	Ala	Arg	Arg
		35					40					45			
Leu	Ala	Lys	Lys	Glu	Ala	Lys	Glu	Arg	Lys	Lys	Arg	Glu	Lys	Met	Gly
	50					55					60				
Trp	Gly	Glu	Glu	Tyr	Met	Gly	Tyr	Thr	Asn	Thr	Asp	Asn	Pro	Phe	Gly
65				70						75				80	
Asp	Asn	Asn	Leu	Leu	Gly	Thr	Phe	Ile	Trp	Asn	Lys	Ala	Leu	Glu	Lys
			85						90					95	
Lys	Gly	Ile	Ser	His	Leu	Glu	Glu	Lys	Glu	Leu	Lys	Glu	Arg	Asn	Lys
			100					105					110		
Arg	Ile	Gln	Glu	Asp	Asn	Arg	Leu	Glu	Leu	Gln	Lys	Val	Lys	Gln	Leu
		115					120					125			
Arg	Leu	Glu	Arg	Glu	Arg	Glu	Lys	Ala	Met	Arg	Glu	Gln	Glu	Leu	Glu
	130					135					140				
Met	Leu	Gln	Arg	Val	Lys	Gly	Thr	Glu	His	Phe	Lys	Thr	Trp	Glu	Glu
145					150					155				160	
Gln	Glu	Asp	Asn	Phe	His	Leu	Gln	Gln	Ala	Lys	Leu	Arg	Ser	Lys	Ile
			165						170					175	
Arg	Ile	Arg	Asp	Gly	Arg	Ala	Lys	Pro	Ile	Asp	Leu	Leu	Ala	Lys	Tyr
		180						185					190		
Ile	Ser	Ala	Glu	Asp	Asp	Asp	Leu	Ala	Gly	Glu	Met	His	Glu	Pro	Tyr
		195					200					205			
Thr	Phe	Leu	Asn	Gly	Leu	Thr	Val	Ala	Asp	Met	Glu	Asp	Leu	Leu	Glu
	210					215					220				
Asp	Ile	Gln	Val	Tyr	Met	Glu	Leu	Glu	Gln	Gly	Lys	Asn	Ala	Asp	Phe
225					230					235				240	
Trp	Arg	Asp	Met	Thr	Thr	Ile	Thr	Glu	Asp	Glu	Ile	Ser	Lys	Leu	Arg
			245						250					255	
Lys	Leu	Glu	Ala	Ser	Gly	Lys	Gly	Pro	Gly	Glu	Arg	Arg	Glu	Gly	Val
		260						265					270		
Asn	Ala	Ser	Val	Ser	Ser	Asp	Val	Gln	Ser	Val	Phe	Lys	Gly	Lys	Thr
	275					280						285			
Tyr	Asn	Gln	Leu	Gln	Val	Ile	Phe	Gln	Gly	Ile	Glu	Gly	Lys	Ile	Arg
	290					295				300					
Ala	Gly	Gly	Pro	Asn	Leu	Asp	Met	Gly	Tyr	Trp	Glu	Ser	Leu	Leu	Gln

305		310		315		320
Gln Leu Arg	Ala His Met	Ala Arg Ala Arg	Leu Arg Glu Arg	His Gln		
	325		330		335	
Asp Val Leu	Arg Gln Lys	Leu Tyr Lys Leu	Lys Gln Glu Gln	Gly Val		
	340		345		350	
Glu Ser						

&lt;210&gt; 4583

&lt;211&gt; 3350

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4583

```

nctacaatca agtggaaaaa ccggaaaaaa ggccaggaac ctgaatacga cctaatagct
60
gtttccgagg gggcaacttc cacggagaac cttctgccct ggtaacggcc agagaggagg
120
agatgacgcc agtcagggag cggcctgggc ccagacagtg aggaagcgcg aaggcggagc
180
aaccgaggaa tcctccggag aagaatcaga gccgtcgcta ccgccactac cgccaccacc
240
atggaaggag caaagccgac attgcagctc gtgtaccagg cagtgcaggc gctttaccac
300
gaccagatc ccagcggaaa ggagcgcgcc tctttttggc ttggggagct gcagcgttcg
360
gttcatgcat gggagatctc agaccagttg ttacagatcc ggcaggatgt ggagtcatgc
420
tattttgctg cacagacat gaaaatgaag attcagacct cattttatga gctccccaca
480
gactctcatg cctctttacg ggactcattg ctaaccata tccagaactt gaaagacttg
540
tcacctgtta ttgtaacgca gctggcttta gcaatagcag atcttgccct acagatgcct
600
tcctggaagg gatgtgtgca aacactggtg gaaaaatata gcaatgatgt gacttctttg
660
ccttttttgc tggagatcct tacagtgtta cctgaagaag tacatagtcg ttccttacga
720
attggagcta atcggcgcac agaaattata gaagatttgg cttctactc tagtacagta
780
gtatctctat tgatgacctg tgtagaaaaa gcaggaacag atgagaaaat gcttatgaag
840
gtttttcgct gtttgggaag ttggtttaac ttgggagttt tggacagtaa cttcatggct
900
aacaataaat tactagcact cctttttgag gttttgcaac aggataagac ctcgtctaac
960
ctacatgaag ctgcttcgga ctgtgtatgc tcagctctct atgccattga gaatgtggag
1020
actaacttgc cattagccat gcaacttttt cagggagtgc tgacattgga gactgcctat
1080
catatggccg tggcacgtga agatttagac aaagtcttga attactgccg tattttcact
1140
gaactatgtg aaacttttct tgaaaaaatt gtttgctact caggccaagg tcttggggac
1200

```

ctctgaactc tggagctgct gcttatctgt gcaggccatc ctcaatatga ggtagtagaa  
 1260  
 atttcattta actttttgga ccgactgggg gaacatttgt acaaaaactaa cgatgaagtt  
 1320  
 attcatggca tcttcaaagc ttacattcag aggctgcttc acgccttggc tcgacactgc  
 1380  
 cagctggaac cagaccatga ggggggtcct gaggagactg atgacttttg ggagtttcgc  
 1440  
 atgaggggtat cagacctggg aaaggacttg attttcttga tagggctctat ggagtgtttt  
 1500  
 gctcagttat attctactct gaaagaaggc aaccaccctt gggaggtgac agaagcgggt  
 1560  
 ctctttatca tggctgctat agcaaagagt gttgatccgg aaaacaatcc aacacttggt  
 1620  
 gaagtcctag aaggagttgt ccgcctcccg gagaccgtac atacggctgt gcgatacacc  
 1680  
 agcattgaat tgggtggaga gatgagtga gtcgttgatc gaaatcctca gttccttgac  
 1740  
 cctgtgttg gctatttgat gaaaggcctg tgtgaaaagc ccctggcttc tgctgcagcc  
 1800  
 aaagccattc ataacatttg ctctgtctgc cgagatcaca tggctcagca ctttaatgga  
 1860  
 ctctgggaga ttgccgctc cctcgattcc ttctgttggt ctccagaagc tgctgtgggc  
 1920  
 ttgctaaaag ggacagcact tgtcctagcc cgattacctt tggataagat taccgaatgt  
 1980  
 cttagtgaac tatgttctgt tcaggttatg gcattgaaa agctgttgct tcaagagccc  
 2040  
 agcaatggca tatectcaga tcccacagtg ttcttagatc gccttgagc gatatttagg  
 2100  
 cataccaatc ccattgtgga aaatggacag actcatccgt gtcagaaaagt catacaggaa  
 2160  
 atatggccag ttttatccga gactctaaat aagcaccgag ctgataatcg gattgtagag  
 2220  
 cgttgttgca ggtgcctgcg ctttgcgtgt cgctgtgtag gcaaaggatc tgcagcactg  
 2280  
 ctgcagccac tagtcacaca gatgggtgaat gtgtaccacg tacatcagca ttctgtcttc  
 2340  
 ctgtaccttg gcagtatcct tgtggatgaa tatggcatgg aagaaggctg tcggcagggg  
 2400  
 ctgctagaca tgctccaggc actgtgcac cccacctttc agctcctaga acagcagaat  
 2460  
 ggtctccaga atcaccctga cactgtagat gacctgttcc ggctagccac caggtttatt  
 2520  
 cagcgtagcc ctgtcacctt gctgcgggag caagtgggtca tccctatctt acagtgggac  
 2580  
 attgcctcta ctaccctgga ccaccgggat gccaatgta gtgtcatgag gtttctacga  
 2640  
 gacctcattc atacaggggt agccaatgat catgaagaag actttgaatt acggaaagaa  
 2700  
 ctgattggac aggtgatgaa ccagcttgga cagcagcttg tcagccagct gctgcacacc  
 2760  
 tgctgctttt gcctcccccc ctatacccta ccagatgtgg ctgaagtgtc ctgggagatc  
 2820

atgcaggttg acagaccgac tttttgtcga tggtagaaa attccttaaa aggtttgcc  
 2880  
 aaggaaacaa ccgtgggagc cgtcacagt acacacaaac aacttacaga cttccacaag  
 2940  
 caagtcacta gtgctgagga atgtaaaca gtttgctggg ccttgcgaga cttcaccagg  
 3000  
 ttgtttcgat agctcacact cctgcactgt gcctgtcacc caggaatgtc ttttttaatt  
 3060  
 agaagacagg aagaaaacaa aaaccagact gtgtcccaca atcagaaacc tccgttggtg  
 3120  
 cagagggggc ttcaccgcca ccagggtgtc ccgccagaca gggagagact ccagccttct  
 3180  
 gaggccatcc tgaggagtcc ctgtttgggg gtgtgaggga aaatcagcgc ggattttaaa  
 3240  
 aagatggctg tggcctgccc ggcgtggtgg gaggggagct ggtttcctgg tgaactttct  
 3300  
 aaaaggaaaa ataatttta gtaaagaaaa aaggaaaaaa aggaagacta  
 3350

<210> 4584

<211> 923

<212> PRT

<213> Homo sapiens

<400> 4584

Met	Glu	Gly	Ala	Lys	Pro	Thr	Leu	Gln	Leu	Val	Tyr	Gln	Ala	Val	Gln
1				5					10					15	
Ala	Leu	Tyr	His	Asp	Pro	Asp	Pro	Ser	Gly	Lys	Glu	Arg	Ala	Ser	Phe
			20					25					30		
Trp	Leu	Gly	Glu	Leu	Gln	Arg	Ser	Val	His	Ala	Trp	Glu	Ile	Ser	Asp
		35					40					45			
Gln	Leu	Leu	Gln	Ile	Arg	Gln	Asp	Val	Glu	Ser	Cys	Tyr	Phe	Ala	Ala
		50				55					60				
Gln	Thr	Met	Lys	Met	Lys	Ile	Gln	Thr	Ser	Phe	Tyr	Glu	Leu	Pro	Thr
65					70					75					80
Asp	Ser	His	Ala	Ser	Leu	Arg	Asp	Ser	Leu	Leu	Thr	His	Ile	Gln	Asn
			85					90						95	
Leu	Lys	Asp	Leu	Ser	Pro	Val	Ile	Val	Thr	Gln	Leu	Ala	Leu	Ala	Ile
			100					105					110		
Ala	Asp	Leu	Ala	Leu	Gln	Met	Pro	Ser	Trp	Lys	Gly	Cys	Val	Gln	Thr
		115					120					125			
Leu	Val	Glu	Lys	Tyr	Ser	Asn	Asp	Val	Thr	Ser	Leu	Pro	Phe	Leu	Leu
		130				135					140				
Glu	Ile	Leu	Thr	Val	Leu	Pro	Glu	Glu	Val	His	Ser	Arg	Ser	Leu	Arg
145					150					155					160
Ile	Gly	Ala	Asn	Arg	Arg	Thr	Glu	Ile	Ile	Glu	Asp	Leu	Ala	Phe	Tyr
			165						170					175	
Ser	Ser	Thr	Val	Val	Ser	Leu	Leu	Met	Thr	Cys	Val	Glu	Lys	Ala	Gly
		180						185					190		
Thr	Asp	Glu	Lys	Met	Leu	Met	Lys	Val	Phe	Arg	Cys	Leu	Gly	Ser	Trp
		195					200						205		
Phe	Asn	Leu	Gly	Val	Leu	Asp	Ser	Asn	Phe	Met	Ala	Asn	Asn	Lys	Leu
	210					215					220				
Leu	Ala	Leu	Leu	Phe	Glu	Val	Leu	Gln	Gln	Asp	Lys	Thr	Ser	Ser	Asn

225		230		235		240
Leu His Glu Ala Ala Ser Asp Cys Val Cys Ser Ala Leu Tyr Ala Ile						
	245		250		255	
Glu Asn Val Glu Thr Asn Leu Pro Leu Ala Met Gln Leu Phe Gln Gly						
	260		265		270	
Val Leu Thr Leu Glu Thr Ala Tyr His Met Ala Val Ala Arg Glu Asp						
	275		280		285	
Leu Asp Lys Val Leu Asn Tyr Cys Arg Ile Phe Thr Glu Leu Cys Glu						
	290		295		300	
Thr Phe Leu Glu Lys Ile Val Cys Thr Pro Gly Gln Gly Leu Gly Asp						
305		310		315		320
Leu Arg Thr Leu Glu Leu Leu Ile Cys Ala Gly His Pro Gln Tyr						
	325		330		335	
Glu Val Val Glu Ile Ser Phe Asn Phe Trp Tyr Arg Leu Gly Glu His						
	340		345		350	
Leu Tyr Lys Thr Asn Asp Glu Val Ile His Gly Ile Phe Lys Ala Tyr						
	355		360		365	
Ile Gln Arg Leu Leu His Ala Leu Ala Arg His Cys Gln Leu Glu Pro						
	370		375		380	
Asp His Glu Gly Val Pro Glu Glu Thr Asp Asp Phe Gly Glu Phe Arg						
385		390		395		400
Met Arg Val Ser Asp Leu Val Lys Asp Leu Ile Phe Leu Ile Gly Ser						
	405		410		415	
Met Glu Cys Phe Ala Gln Leu Tyr Ser Thr Leu Lys Glu Gly Asn Pro						
	420		425		430	
Pro Trp Glu Val Thr Glu Ala Val Leu Phe Ile Met Ala Ala Ile Ala						
	435		440		445	
Lys Ser Val Asp Pro Glu Asn Asn Pro Thr Leu Val Glu Val Leu Glu						
	450		455		460	
Gly Val Val Arg Leu Pro Glu Thr Val His Thr Ala Val Arg Tyr Thr						
465		470		475		480
Ser Ile Glu Leu Val Gly Glu Met Ser Glu Val Val Asp Arg Asn Pro						
	485		490		495	
Gln Phe Leu Asp Pro Val Leu Gly Tyr Leu Met Lys Gly Leu Cys Glu						
	500		505		510	
Lys Pro Leu Ala Ser Ala Ala Ala Lys Ala Ile His Asn Ile Cys Ser						
	515		520		525	
Val Cys Arg Asp His Met Ala Gln His Phe Asn Gly Leu Leu Glu Ile						
	530		535		540	
Ala Arg Ser Leu Asp Ser Phe Leu Leu Ser Pro Glu Ala Ala Val Gly						
545		550		555		560
Leu Leu Lys Gly Thr Ala Leu Val Leu Ala Arg Leu Pro Leu Asp Lys						
	565		570		575	
Ile Thr Glu Cys Leu Ser Glu Leu Cys Ser Val Gln Val Met Ala Leu						
	580		585		590	
Lys Lys Leu Leu Ser Gln Glu Pro Ser Asn Gly Ile Ser Ser Asp Pro						
	595		600		605	
Thr Val Phe Leu Asp Arg Leu Ala Val Ile Phe Arg His Thr Asn Pro						
	610		615		620	
Ile Val Glu Asn Gly Gln Thr His Pro Cys Gln Lys Val Ile Gln Glu						
625		630		635		640
Ile Trp Pro Val Leu Ser Glu Thr Leu Asn Lys His Arg Ala Asp Asn						
	645		650		655	
Arg Ile Val Glu Arg Cys Cys Arg Cys Leu Arg Phe Ala Val Arg Cys						

660 665 670  
 Val Gly Lys Gly Ser Ala Ala Leu Leu Gln Pro Leu Val Thr Gln Met  
 675 680 685  
 Val Asn Val Tyr His Val His Gln His Ser Cys Phe Leu Tyr Leu Gly  
 690 695 700  
 Ser Ile Leu Val Asp Glu Tyr Gly Met Glu Glu Gly Cys Arg Gln Gly  
 705 710 715 720  
 Leu Leu Asp Met Leu Gln Ala Leu Cys Ile Pro Thr Phe Gln Leu Leu  
 725 730 735  
 Glu Gln Gln Asn Gly Leu Gln Asn His Pro Asp Thr Val Asp Asp Leu  
 740 745 750  
 Phe Arg Leu Ala Thr Arg Phe Ile Gln Arg Ser Pro Val Thr Leu Leu  
 755 760 765  
 Arg Ser Gln Val Val Ile Pro Ile Leu Gln Trp Ala Ile Ala Ser Thr  
 770 775 780  
 Thr Leu Asp His Arg Asp Ala Asn Cys Ser Val Met Arg Phe Leu Arg  
 785 790 795 800  
 Asp Leu Ile His Thr Gly Val Ala Asn Asp His Glu Glu Asp Phe Glu  
 805 810 815  
 Leu Arg Lys Glu Leu Ile Gly Gln Val Met Asn Gln Leu Gly Gln Gln  
 820 825 830  
 Leu Val Ser Gln Leu Leu His Thr Cys Cys Phe Cys Leu Pro Pro Tyr  
 835 840 845  
 Thr Leu Pro Asp Val Ala Glu Val Leu Trp Glu Ile Met Gln Val Asp  
 850 855 860  
 Arg Pro Thr Phe Cys Arg Trp Leu Glu Asn Ser Leu Lys Gly Leu Pro  
 865 870 875 880  
 Lys Glu Thr Thr Val Gly Ala Val Thr Val Thr His Lys Gln Leu Thr  
 885 890 895  
 Asp Phe His Lys Gln Val Thr Ser Ala Glu Glu Cys Lys Gln Val Cys  
 900 905 910  
 Trp Ala Leu Arg Asp Phe Thr Arg Leu Phe Arg  
 915 920

&lt;210&gt; 4585

&lt;211&gt; 1952

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4585

cccgggtggt ctccattgtc gggctgctgc tctcagcggc ggggctcgcc agcgcttcag  
 60  
 tgggcgggga cgcggcaggt gactccagac caaggaggat gagctgctgt ccctggaaga  
 120  
 gaacggatgg agggaagcag ctctacgaa gttccctctg tggctgctgc tgatctggag  
 180  
 gaggtgctg gtcagactag gagcttgccct gccacccct ccaaagatgt tcacaagggt  
 240  
 gttggaggca tcatcttttc ctctcaccg atttttagact tgagtgaag tggctgtgctc  
 300  
 cgtttgagg aggtcttttag aatccccagc cttcaacaat tgcattctgca aaggaatgcc  
 360  
 ctgtgtgtga ttcctcaaga tttctttcag ttgcttcga acctgacttg gctggacctc  
 420

cggtacaata gaattaaagc gcttccttct gggattggag ctcaccagca tttgaaaact  
480  
ttgcttttag aaagaaatcc tatcaaaatg ttacctgtgg agctggggag cgtaaccacg  
540  
ctgaaagcac tgaacctaaag acactgccct ctggaattcc ctctcagct cgttgtgcag  
600  
aagggattgg tggctatcca gcgcttcctg cggatgtggg cagtagaaca ctctctcccc  
660  
agaaatccaa cttctcaaga ggctccaccg gttagagaga tgacctccg tgacctcccg  
720  
agcccaggac tggagtgtgc tggagaccac gcgtctaacc aaggagctgt gaacgctcag  
780  
gaccagagg gggctgtgat gaaagagaag gccagctttc tcccgctgt ggaaaagcca  
840  
gacctgagt aactcaggaa gtctgcggac tcctcagaga actggcccag cgaggaggag  
900  
atcaggcgct tttggaagct gaggcaggag attgttgagc acgtgaaggc agacgttctg  
960  
ggagatcagc tcttgacgag ggaattacct ccaaattctca aggcggcctt gaacattgag  
1020  
aaagaactac caaagccaag acacgttttc agaaggaaga cagcctcctc caggagcatc  
1080  
ttacccgacc tcttgtcacc gtaccaaattg gcgatccgag caaaaagact ggaagagagc  
1140  
cgagcggcgg cgctccgaga gctccaggag aagcaggctc tgatggagca gcagagacga  
1200  
gagaaaaggg cactgcagga gtggagagag cgagcccaga ggatgaggaa gaggaaggaa  
1260  
gagctcagca aactcctgcc tccgcggagg agcatggtgg catcaaagat tccctctgcc  
1320  
acagatctga tagataacag gaaagtacca ctgaatccgc ctggaaaaat gaaaccaagc  
1380  
aaagagaaat cgccacaagc aagtaaagaa atgagtgcc tgcaggagag aaatttagaa  
1440  
gagaagataa aacagcacgt cctccaaatg cgtgagcaaa gaagattcca tggccaggcc  
1500  
ccactggagg agatgaggaa ggctgccgag gatctggaaa ttgccacaga gctacaggat  
1560  
gaagtattga agctaaaatt gggattaacc ttgaacaaag atcgtcgacg ggcggccctc  
1620  
actggaaacc tttcgcttgg cctgccggca gcacagcctc aaaatacatt ttttaacaca  
1680  
aaatatggag aatcaggaaa tgttcgaga taccagtac accaggtggc tggactgatg  
1740  
gagacgtctt cagacaggag ccgctcagtc ttctttcccg gcgtcgccctc ctgtgtggtg  
1800  
ccggaagagc gccaggttca gtgttaccct gagggctgat ttcgcgcagc ctgttgtttt  
1860  
ccttagacag gtccacgtcc ctctcctgag gctgtggaag atttcagccg tattaanaaga  
1920  
aaggacactg tgaaaaaaaa aaaaaaaaaa aa  
1952

&lt;210&gt; 4586



&lt;211&gt; 530

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4586

```

Met Glu Gly Ser Ser Ser Tyr Glu Val Pro Ser Val Ala Ala Ala Asp
 1          5          10          15
Leu Glu Glu Gly Ala Gly Gln Thr Arg Ser Leu Pro Ala Thr Pro Ser
      20          25          30
Lys Asp Val His Lys Gly Val Gly Gly Ile Ile Phe Ser Ser Ser Pro
 35          40          45
Ile Leu Asp Leu Ser Glu Ser Gly Leu Cys Arg Leu Glu Glu Val Phe
 50          55          60
Arg Ile Pro Ser Leu Gln Gln Leu His Leu Gln Arg Asn Ala Leu Cys
 65          70          75          80
Val Ile Pro Gln Asp Phe Phe Gln Leu Leu Pro Asn Leu Thr Trp Leu
      85          90          95
Asp Leu Arg Tyr Asn Arg Ile Lys Ala Leu Pro Ser Gly Ile Gly Ala
      100          105          110
His Gln His Leu Lys Thr Leu Leu Leu Glu Arg Asn Pro Ile Lys Met
      115          120          125
Leu Pro Val Glu Leu Gly Ser Val Thr Thr Leu Lys Ala Leu Asn Leu
      130          135          140
Arg His Cys Pro Leu Glu Phe Pro Pro Gln Leu Val Val Gln Lys Gly
      145          150          155          160
Leu Val Ala Ile Gln Arg Phe Leu Arg Met Trp Ala Val Glu His Ser
      165          170          175
Leu Pro Arg Asn Pro Thr Ser Gln Glu Ala Pro Pro Val Arg Glu Met
      180          185          190
Thr Leu Arg Asp Leu Pro Ser Pro Gly Leu Glu Leu Ser Gly Asp His
      195          200          205
Ala Ser Asn Gln Gly Ala Val Asn Ala Gln Asp Pro Glu Gly Ala Val
      210          215          220
Met Lys Glu Lys Ala Ser Phe Leu Pro Pro Val Glu Lys Pro Asp Leu
      225          230          235          240
Ser Glu Leu Arg Lys Ser Ala Asp Ser Ser Glu Asn Trp Pro Ser Glu
      245          250          255
Glu Glu Ile Arg Arg Phe Trp Lys Leu Arg Gln Glu Ile Val Glu His
      260          265          270
Val Lys Ala Asp Val Leu Gly Asp Gln Leu Leu Thr Arg Glu Leu Pro
      275          280          285
Pro Asn Leu Lys Ala Ala Leu Asn Ile Glu Lys Glu Leu Pro Lys Pro
      290          295          300
Arg His Val Phe Arg Arg Lys Thr Ala Ser Ser Arg Ser Ile Leu Pro
      305          310          315          320
Asp Leu Leu Ser Pro Tyr Gln Met Ala Ile Arg Ala Lys Arg Leu Glu
      325          330          335
Glu Ser Arg Ala Ala Ala Leu Arg Glu Leu Gln Glu Lys Gln Ala Leu
      340          345          350
Met Glu Gln Gln Arg Arg Glu Lys Arg Ala Leu Gln Glu Trp Arg Glu
      355          360          365
Arg Ala Gln Arg Met Arg Lys Arg Lys Glu Glu Leu Ser Lys Leu Leu
      370          375          380
Pro Pro Arg Arg Ser Met Val Ala Ser Lys Ile Pro Ser Ala Thr Asp

```

<400> 4587					
nnaaatttttg	tcaagaagcg	gaggctctta	gaacggagag	gctttctgag	taaaaagaac
60					
caacccctta	gcaaggcgcc	taagttgcac	tctgaacctt	caaagaaagg	ggaaactcct
120					
acggtcgatg	gcacttgga	gaccccttcc	ttcccaaaaa	agaagacagc	tgcttccagc
180					
aatgggtcag	gacagccct	ggacaagaaa	gctgcagtgt	cttggttgac	ccctgcccct
240					
tcaaaaaagg	ctgattctgt	tgctgctaaa	gtagatttgc	tgggggagtt	ccagagtgcc
300					
cttccaaaga	tcaatagcca	cccaacccgc	tctcagaaga	agagctccca	gaagaaatcc
360					
tctaaaaaga	accatcctca	gaagaatgcc	ccacagaact	ccaccaagc	tcattcagag
420					
aataaatgct	ccggagcatc	ccagaagttg	ccacggaaga	tggtggcaat	tgactgtgag
480					
atggtgggca	caggaccaa	ggggcatggt	agttccttgg	ctcgatgtag	cattgtcaac
540					
tacaacggag	atgtgcttta	tgacgagtac	attcttcccc	cctgccacat	tgtggactac
600					
cgaaccaggt	ggagtgggtat	ccggaagcag	cacatggtga	atgccacacc	cttcaagatt
660					
gctcgaggcc	agatcttgaa	gatactcaca	gggaagatag	tggtggggca	tgccatccac
720					
aacgacttca	aagcccttca	gtactttcac	cccaagtccc	tcacccgtga	cacctcccat
780					
atcccccccc	tcaaccggaa	ggctgactgc	ccggagaatg	ccaccatgtc	tctgaagcat
840					

ctcaccaaga agctgctaaa ccgggatatc caggttggga agagcggaca ttcctctgtg  
 900  
 gaagatgccc aggccaccat ggagctatat aagttggttg aagtcgagtg ggaagagcac  
 960  
 ctagcccga atccccctac agactagtgg cagtggggac gctggtgata tgaggaggca  
 1020  
 gaggcagcac ccaggagaaa cagggcagtg gaccaatgga cagctccacc agctccacat  
 1080  
 ctttgggaagc tagatttggg gagagagaag ctctaccca gacttaatac ccattgaaat  
 1140  
 ttcacctcag gtgttgtgtc ctgtgtctgg ttaagtgtcc catggaaggg gaaagccttc  
 1200  
 acgtcagaac ccaaccctat accttttact tcttaaatgg tgctaaccac aggtgtccca  
 1260  
 ggggtgctctg tgccagttaa gatttttaac tttcaagggg cagggcatac tgggaaatgt  
 1320  
 agtttcccaa actgccttat cacttgggtg gacatatgtc tccttttatg ccttttggtc  
 1380  
 ttgagtaatt aacagcatcc tcttccacgc tcagaagtgt tctggttggg gccaggcatg  
 1440  
 gtcgtcacgc ctgtagtccc aacacttagg gagtccgagg cgggcggatc acctgagatc  
 1500  
 aggagttaa gaccagcctg gccaacatgg cgaattcccg ttctctacta aaaatacaaa  
 1560  
 aaatgtgtgg ggtgtggtgg caggagcctg taatcctagc tactcaggag gctgaggcag  
 1620  
 gagaatcgct tgagcccagg aggcggagat tgcagtgagc cgagatcgtg tcactgcact  
 1680  
 ccagcctggg tgacaagagt gagactccgt ctccaaaaaa aaa  
 1723

&lt;210&gt; 4588

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4588

Xaa Asn Phe Val Lys Lys Arg Arg Leu Leu Glu Arg Arg Gly Phe Leu  
 1 5 10 15  
 Ser Lys Lys Asn Gln Pro Pro Ser Lys Ala Pro Lys Leu His Ser Glu  
 20 25 30  
 Pro Ser Lys Lys Gly Glu Thr Pro Thr Val Asp Gly Thr Trp Lys Thr  
 35 40 45  
 Pro Ser Phe Pro Lys Lys Lys Thr Ala Ala Ser Ser Asn Gly Ser Gly  
 50 55 60  
 Gln Pro Leu Asp Lys Lys Ala Ala Val Ser Trp Leu Thr Pro Ala Pro  
 65 70 75 80  
 Ser Lys Lys Ala Asp Ser Val Ala Ala Lys Val Asp Leu Leu Gly Glu  
 85 90 95  
 Phe Gln Ser Ala Leu Pro Lys Ile Asn Ser His Pro Thr Arg Ser Gln  
 100 105 110  
 Lys Lys Ser Ser Gln Lys Lys Ser Ser Lys Lys Asn His Pro Gln Lys  
 115 120 125  
 Asn Ala Pro Gln Asn Ser Thr Gln Ala His Ser Glu Asn Lys Cys Ser

130		135		140
Gly Ala Ser Gln Lys Leu Pro Arg Lys Met Val Ala Ile Asp Cys Glu				
145		150		155
Met Val Gly Thr Gly Pro Lys Gly His Val Ser Ser Leu Ala Arg Cys				
	165		170	175
Ser Ile Val Asn Tyr Asn Gly Asp Val Leu Tyr Asp Glu Tyr Ile Leu				
	180		185	190
Pro Pro Cys His Ile Val Asp Tyr Arg Thr Arg Trp Ser Gly Ile Arg				
	195		200	205
Lys Gln His Met Val Asn Ala Thr Pro Phe Lys Ile Ala Arg Gly Gln				
	210		215	220
Ile Leu Lys Ile Leu Thr Gly Lys Ile Val Val Gly His Ala Ile His				
225		230		235
Asn Asp Phe Lys Ala Leu Gln Tyr Phe His Pro Lys Ser Leu Thr Arg				
	245		250	255
Asp Thr Ser His Ile Pro Pro Leu Asn Arg Lys Ala Asp Cys Pro Glu				
	260		265	270
Asn Ala Thr Met Ser Leu Lys His Leu Thr Lys Lys Leu Leu Asn Arg				
	275		280	285
Asp Ile Gln Val Gly Lys Ser Gly His Ser Ser Val Glu Asp Ala Gln				
	290		295	300
Ala Thr Met Glu Leu Tyr Lys Leu Val Glu Val Glu Trp Glu Glu His				
305		310		315
Leu Ala Arg Asn Pro Pro Thr Asp				320
	325			

&lt;210&gt; 4589

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4589

acgcgtgaag ggggcttggg agcctcgggg cgcgagctgt gttggaagca aagtcctcct  
 60  
 tgtgggttgg ggtggctgag ggagaaggga agcgagggtc gcggcgggac cagacgcccc  
 120  
 agtccccggc cgcccgcgac tactgaaggc gctgccgcct gacctgaacg ggcaacttgtg  
 180  
 ttccagctcc cctgggacct gtggccgccc cccacagacc atgctcctgg ggcgcctgac  
 240  
 ttccagctg ttgagggccg ttccttgggc aggtaggaag ccccgcggcg ganctgggag  
 300  
 gatgcacacc tggttaggag tgcgggtctc agcagctccg ctggggcagg gcggtggcca  
 360  
 cacacacact ctttccctc taagcttccg atgctcacag agggaaacctc aggggttcag  
 420  
 gccaggaatg aggtgcgggg gatcctcgct gggacgaacc tgctgctccc caaccgcagc  
 480  
 ggctgtgtg gtctcgcgag cggtgaccgt ggcgtctggt tttctgcagg cggccgcccc  
 540  
 ccttgccccg tctctggagt gctgggcagc cgggtctgcg ggccc  
 585

&lt;210&gt; 4590

<211> 121  
 <212> PRT  
 <213> Homo sapiens

<400> 4590  
 Met Leu Leu Gly Arg Leu Thr Ser Gln Leu Leu Arg Ala Val Pro Trp  
     1                    5                    10                    15  
 Ala Gly Arg Lys Pro Arg Gly Gly Xaa Gly Arg Met His Thr Trp Leu  
             20                    25                    30  
 Gly Val Arg Val Ser Ala Ala Pro Leu Gly Gln Gly Gly Gly His Thr  
             35                    40                    45  
 His Thr Leu Ser Pro Leu Ser Phe Arg Cys Ser Gln Arg Glu Pro Gln  
             50                    55                    60  
 Gly Phe Arg Pro Gly Met Arg Cys Gly Gly Ser Ser Leu Gly Arg Thr  
     65                    70                    75                    80  
 Cys Cys Ser Pro Thr Arg Arg Ala Cys Val Val Ser Arg Ala Val Thr  
             85                    90                    95  
 Val Ala Ser Gly Phe Leu Gln Ala Ala Ala Arg Leu Gly Pro Ser Leu  
             100                    105                    110  
 Glu Cys Trp Ala Ala Gly Ser Ala Gly  
             115                    120

<210> 4591  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 4591  
 aaatttgccc caccgcctac ttttgtagac gacgttttat gggaacacag acacccccgt  
     60  
 ccgtgtactt ccatggcttc ttccacaggt cagctgcaga gctaagtaac tgtgacaggg  
     120  
 accacttggc taagaaagcc tccagtattt actcgactgc cctgtgcttt ggactcaaaa  
     180  
 gagctcctct ctggccctct ggccacgac gtctccatga gacacggaag ctacgatgct  
     240  
 tggcagacag gcttgtgagc ccacaccctg cctccagccc aggctccagg tacctgcccc  
     300  
 agaattccct gcacaagtgg ccccaagctt gtgctggtct gtggggggtt cttccctggg  
     360  
 ctgttgtcct gggcatgtgc agtcctcagg ctgatgggca gctatgggaa ggctgggtcat  
     420  
 gcaggctggg tatccacaca cctgcacacg tggcttctcc tagtgagta tggagtcagg  
     480  
 gatgggcccgg gaaggg  
     496

<210> 4592  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

<400> 4592  
 Met Gly Thr Gln Thr Pro Pro Ser Val Tyr Phe His Gly Phe Phe His

```

      1           5           10           15
Arg Ser Ala Ala Glu Leu Ser Asn Cys Asp Arg Asp His Leu Ala Lys
      20           25           30
Lys Ala Ser Ser Ile Tyr Ser Thr Ala Leu Cys Phe Gly Leu Lys Arg
      35           40           45
Ala Pro Leu Trp Pro Ser Gly His Asp Arg Leu His Glu Thr Arg Lys
      50           55           60
Leu Arg Cys Leu Ala Asp Arg Leu Val Ser Pro His Pro Ala Ser Ser
      65           70           75           80
Pro Gly Ser Arg Tyr Leu Pro Gln Asn Ser Leu His Lys Trp Pro Gln
      85           90           95
Ala Cys Ala Gly Leu Trp Gly Phe Leu Pro Trp Ala Val Val Leu Gly
      100          105          110
Met Cys Ser Pro Gln Ala Asp Gly Gln Leu Trp Glu Gly Trp Ser Cys
      115          120          125
Arg Leu Gly Ile His Thr Pro Ala His Val Ala Ser Pro Ser Ala Val
      130          135          140
Trp Ser Gln Gly Trp Ala Gly Lys
      145          150

```

&lt;210&gt; 4593

&lt;211&gt; 4783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4593

```

aatcatgaaa atctattttt acagcccccc aaattgtccc gagaagagcc ttctaatacct
60
ttcttgccat ttgtggagaa agttgaacac agccctttca gtagttttgc atctcaggca
120
tcaggtagct cctcttctgc taccactgtc acctccaagg tggcaccag ctggcccgag
180
tctcactcct ctgcagattc ggcattctta gcaaagaaga aacctctctt cattacaact
240
gactcctcca agctagtatc tgggtgttctg ggctcagctc ttaccagtgg gggcccaagc
300
ctctctgcca tggggaatgg ccgctccagc tcgcccacca gcagcctcac tcagccatt
360
gagatgccaa ctctctcctc tagccccaca gaggagaggc caactgtggg gcctgggcag
420
caggacaatc cctcctcaa aacctttagt aacgtctttg gcaggcactc aggcggcttt
480
ctgtcctccc cggcagattt ttcacaggag aacaaagctc cttttgaagc tgtgaaaagg
540
ttctcactgg atgaacgaag cttggcttgc agacaagact cggactccag caccaacagt
600
gaactgtcag atttgagtga ctctgaggag cagctgcagg ctaagacagg cctgaagggg
660
attccagagc acctgatggg gaagctgggc cccaatgggg agcgcagtgc tgagctgttg
720
ctggggcaaaa gcaaaggga gaggccccc aagggccggc ctcggactgc cccctgaaa
780
gttgccagc cagtgtgaa agatgtaagc aaagtgaaga agctgaagca atctggagag
840

```

cccttctctgc aggatgggtc atgcatcaat gtggcacctc atctgcacaa gtgtcgtgaa  
900  
tgccgcctgg agcgggtaccg gaagtttaag gaacaggagc aagatgattc tactgtagcc  
960  
tgccgtttct ttcacttccg gaggttgatc ttcactcgaa aaggggtgct ccgtgtggag  
1020  
gggtttttaa gccccagca aagtgaccct gatgccatga acctgtggat tccctcttcc  
1080  
tccctagcag aagggataga tctagagacc tcaaaatata tccctggcaa tgttggggac  
1140  
cagttctgcc agctcgtaat gtctgagaag gaggccatga tgatgggtgga gccacaccag  
1200  
aaagtggcat ggaagcgagc tgtgctggt gtacgggaga tgtgtgatgt gtgtgaaaca  
1260  
actctcttca acatccactg ggtttctcgc aaatgtggat ttggggctctg ccttgactgt  
1320  
taccggctca ggaaaagccg gccacgcagt gagacagaag agatgggtga tgaagaagtt.  
1380  
ttctctggt tgaagtgtgc aaaggacag tcccacgaac cagagaatct catgcccaca  
1440  
caaattattc ctggcacagc tctttacaat attggagaca tggtagatgc tgcccggggc  
1500  
aagtggggaa ttaaagcaaa ctgcccttgt atcagtcgac agaacaatc tgtattgaga  
1560  
cctgccgtca ccaatgggat gtcacagctt cctagcataa accctagtgc ctcttctgga  
1620  
aacgaaacta ccttctctgg tggaggagga ccggcaccag taacaactcc agagccggac  
1680  
catgttccca aagccgacag cactgacatc agatctgaag agcctctgaa aacagacagt  
1740  
tcggcgtaaa atagcaatag tgaactgaaa gccatcaggc ctcttggccc tgacacggcc  
1800  
ccacctctc ccgccctgca ctgggtggca gatttagcaa ctgagaaggc taaagaagaa  
1860  
acaaaagaag cagggtccct gaggtcggtg ctcaataaag agtctcttc accctttggg  
1920  
ctggactcgt tcaactccac tgcaaaggte tctccgctga ctccaaagct ttttaacagt  
1980  
ctgttgctgg gtcccactgc ctccaacaac aaaaccgaag ggtctagcct tcgagacctc  
2040  
cttcaactccg ggccgggaaa acttctctca acccccttgg acacaggcat accctttccc  
2100  
ccggtcttct ctacatctc agcaggagtg aagagcaagg ccagcctacc caactttctt  
2160  
gaccacatca ttgcctcagt ggtagaaaat aagaaaacct cagatgcttc aaagcggggc  
2220  
tgcaacttga ctgataccca gaaggaagtg aaggagatgg tgatgggggt aaatgtgcta  
2280  
gatccccata cttctcactc ctggctttgt gatgggaggc ttctgtgtct ccatgacccc  
2340  
agcaacaaaa acaattggaa gatcttccgg gagtggttga agcaaggta gccagtgtg  
2400  
gtttcggggg tacataaaaa gctcaagtct gagctctgga agccagaagc ctttagccag  
2460

gaatttggag accaggatgt agacttgggtg aactgcagga actgtgctat aatttccgat  
2520  
gtgaaagtgc gggatttctg ggatgggttc gagatcatat gcaaacgact acggtcagaa  
2580  
gatgggcagc caatgggtgct caaactcaag gactggcctc ctggggaaga ttttcgagac  
2640  
atgatgcaa ccaggtttga agatctgatg gagaaccttc ctctgccaga atataccaaa  
2700  
cgagatggca ggctcaatct ggcctctagg ctacctagct actttgtaag gcctgatctg  
2760  
ggccccaaga tgtacaacgc ctatgggttg ataacagcag aagatagaag agttggtaca  
2820  
acaaatcttc acttagatgt gtctgatgct gttaatgtga tgggtgatgt tgggattccc  
2880  
atcggggagg gtgctcatga tgaagaggta ctcaagacaa ttgacgaggg agatgccgat  
2940  
gaggtgacga agcagaggat tcatgatgga aaagagaagc cagggtgcttt atggcacatc  
3000  
tatgcagcca aggatgcaga gaagatccgg gagctgctcc gaaagggttg agaagaacaa  
3060  
ggccaagaga acccccttga tcatgacca attcatgacc aaagttagta cctggaccag  
3120  
accctccgta agcgaactcta tgaggagtat ggcgtgcaag gctgggctat tgtgcagttc  
3180  
ctaggtgatg ctgttttcat acctgctgga gcccacacc aggttcacaa tctatacagt  
3240  
tgcataaaaag tagcagaaga ctttgtatct ccagaacatg taaagcactg tttccgcctg  
3300  
actcaggaat tcaggcatct ctctaact catacaaatc atgaggataa actgcagggtg  
3360  
aagaacatca tttaccatgc agtgaaagat gcggttgga ccctcaaggc tcatgaatcc  
3420  
aaactggcaa ggtcctaggc atggagaaac tccaagctcc tctgtgaagc aggtctttca  
3480  
ctcacaacac ttaacaggga acggcagggc tctttgctgg agcagaggcc cttcaccag  
3540  
agccagtgtg gtcagtattc caaactctcc agccactctc ttctacgctg cctcaact  
3600  
gaaggttgac acaggaaagt cgtactgttc acacacacag tttgagactc caagccaaga  
3660  
gtgccacatc cctatcctgt ggccttttg aaatccaaat tgccctgaaca tggcggggct  
3720  
ttcctgcaca ttctcctgat ttgagattca cgggcacacc tttcttttct tttcctcttg  
3780  
tgccagtta agtgggaatg tgtttggaga taggggaaat cacataactg gtacaagtat  
3840  
ggggtaattg cttaaacatg cctggtggaa gtctgatagc gtctctgcac gtgacctctg  
3900  
acaaagccca tcccaggaga cggggtgaag ctattcccca cactctcctg tgaacactgg  
3960  
agtcttgcaa gaccaggga gaaccactg cttttccag gaggctccag gattaggaaa  
4020  
tgtgtgtatt tagtgaaaaa tagatttgta gtgaaatagt tactatttca tgaaagtaga  
4080



tatttttaga atttttgaaa taccacagtt gttttcctgg attataagga aaggcacatt  
 4140  
 acatttagtc ttcccttcga tataaaaactc tttgaagaaa tatgattttt agaatcagc  
 4200  
 taccattat agcacaaaat cagccaaagc agaattttta aaaattggct ttttaggat  
 4260  
 tctttttctc cccctcccat cttagtctta ccttgagggga acagtcatat gagaaggaaac  
 4320  
 tttgtcacat ctaagctgtg gtgtgttccc catgtgtgtg tacaacactg gtgactccag  
 4380  
 gaaccatttt cacctattac cagtgttccc tggggactcc tcttaatgtt tccaaatggg  
 4440  
 aaggacagtt gatttccaac atgagggttt ttgtttttta tccagaaata ttttcagcaa  
 4500  
 aactttccaa ctgagtggag tctgattaag gatttatttg aaaatgggtg gattcattgg  
 4560  
 cccataggta cattggaaaa tgtatatctc tccagctgta ctgtagtgcc ctgcaggctg  
 4620  
 tttatatgtt cacagttact tttttttttt tttaaataaa agtcatttaa tgtagaatac  
 4680  
 ttttaatttc actttctgta ttttaatttt gttgaagggc tgattgggat ttccatgttc  
 4740  
 ttattaaaaa tctaacaaat caaaaaaaaaa aaaaaaaaaa aaa  
 4783

&lt;210&gt; 4594

&lt;211&gt; 1145

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4594

Asn	His	Glu	Asn	Leu	Phe	Leu	Gln	Pro	Pro	Lys	Leu	Ser	Arg	Glu	Glu
1			5					10						15	
Pro	Ser	Asn	Pro	Phe	Leu	Ala	Phe	Val	Glu	Lys	Val	Glu	His	Ser	Pro
		20						25					30		
Phe	Ser	Ser	Phe	Ala	Ser	Gln	Ala	Ser	Gly	Ser	Ser	Ser	Ser	Ala	Thr
		35					40						45		
Thr	Val	Thr	Ser	Lys	Val	Ala	Pro	Ser	Trp	Pro	Glu	Ser	His	Ser	Ser
		50				55					60				
Ala	Asp	Ser	Ala	Ser	Leu	Ala	Lys	Lys	Lys	Pro	Leu	Phe	Ile	Thr	Thr
65					70					75				80	
Asp	Ser	Ser	Lys	Leu	Val	Ser	Gly	Val	Leu	Gly	Ser	Ala	Leu	Thr	Ser
			85					90						95	
Gly	Gly	Pro	Ser	Leu	Ser	Ala	Met	Gly	Asn	Gly	Arg	Ser	Ser	Ser	Pro
		100						105					110		
Thr	Ser	Ser	Leu	Thr	Gln	Pro	Ile	Glu	Met	Pro	Thr	Leu	Ser	Ser	Ser
		115				120						125			
Pro	Thr	Glu	Glu	Arg	Pro	Thr	Val	Gly	Pro	Gly	Gln	Gln	Asp	Asn	Pro
		130				135					140				
Leu	Leu	Lys	Thr	Phe	Ser	Asn	Val	Phe	Gly	Arg	His	Ser	Gly	Gly	Phe
145					150					155				160	
Leu	Ser	Ser	Pro	Ala	Asp	Phe	Ser	Gln	Glu	Asn	Lys	Ala	Pro	Phe	Glu
			165					170					175		
Ala	Val	Lys	Arg	Phe	Ser	Leu	Asp	Glu	Arg	Ser	Leu	Ala	Cys	Arg	Gln

										180						185						190		
Asp	Ser	Asp	Ser	Ser	Thr	Asn	Ser	Asp	Leu	Ser	Asp	Leu	Ser	Asp	Ser	Ser	Asp	Leu	Ser	Asp	Ser	Ser		
										195			200						205					
Glu	Glu	Gln	Leu	Gln	Ala	Lys	Thr	Gly	Leu	Lys	Gly	Ile	Pro	Glu	His									
										210			215						220					
Leu	Met	Gly	Lys	Leu	Gly	Pro	Asn	Gly	Glu	Arg	Ser	Ala	Glu	Leu	Leu									
										225			230			235						240		
Leu	Gly	Lys	Ser	Lys	Gly	Lys	Gln	Ala	Pro	Lys	Gly	Arg	Pro	Arg	Thr									
										245			250						255					
Ala	Pro	Leu	Lys	Val	Gly	Gln	Ser	Val	Leu	Lys	Asp	Val	Ser	Lys	Val									
										260			265						270					
Lys	Lys	Leu	Lys	Gln	Ser	Gly	Glu	Pro	Phe	Leu	Gln	Asp	Gly	Ser	Cys									
										275			280						285					
Ile	Asn	Val	Ala	Pro	His	Leu	His	Lys	Cys	Arg	Glu	Cys	Arg	Leu	Glu									
										290			295						300					
Arg	Tyr	Arg	Lys	Phe	Lys	Glu	Gln	Glu	Gln	Asp	Asp	Ser	Thr	Val	Ala									
										305			310			315						320		
Cys	Arg	Phe	Phe	His	Phe	Arg	Arg	Leu	Ile	Phe	Thr	Arg	Lys	Gly	Val									
										325			330						335					
Leu	Arg	Val	Glu	Gly	Phe	Leu	Ser	Pro	Gln	Gln	Ser	Asp	Pro	Asp	Ala									
										340			345						350					
Met	Asn	Leu	Trp	Ile	Pro	Ser	Ser	Ser	Leu	Ala	Glu	Gly	Ile	Asp	Leu									
										355			360						365					
Glu	Thr	Ser	Lys	Tyr	Ile	Leu	Ala	Asn	Val	Gly	Asp	Gln	Phe	Cys	Gln									
										370			375						380					
Leu	Val	Met	Ser	Glu	Lys	Glu	Ala	Met	Met	Met	Val	Glu	Pro	His	Gln									
										385			390			395						400		
Lys	Val	Ala	Trp	Lys	Arg	Ala	Val	Arg	Gly	Val	Arg	Glu	Met	Cys	Asp									
										405			410						415					
Val	Cys	Glu	Thr	Thr	Leu	Phe	Asn	Ile	His	Trp	Val	Cys	Arg	Lys	Cys									
										420			425						430					
Gly	Phe	Gly	Val	Cys	Leu	Asp	Cys	Tyr	Arg	Leu	Arg	Lys	Ser	Arg	Pro									
										435			440						445					
Arg	Ser	Glu	Thr	Glu	Glu	Met	Gly	Asp	Glu	Glu	Val	Phe	Ser	Trp	Leu									
										450			455						460					
Lys	Cys	Ala	Lys	Gly	Gln	Ser	His	Glu	Pro	Glu	Asn	Leu	Met	Pro	Thr									
										465			470			475						480		
Gln	Ile	Ile	Pro	Gly	Thr	Ala	Leu	Tyr	Asn	Ile	Gly	Asp	Met	Val	His									
										485			490						495					
Ala	Ala	Arg	Gly	Lys	Trp	Gly	Ile	Lys	Ala	Asn	Cys	Pro	Cys	Ile	Ser									
										500			505						510					
Arg	Gln	Asn	Lys	Ser	Val	Leu	Arg	Pro	Ala	Val	Thr	Asn	Gly	Met	Ser									
										515			520						525					
Gln	Leu	Pro	Ser	Ile	Asn	Pro	Ser	Ala	Ser	Ser	Gly	Asn	Glu	Thr	Thr									
										530			535						540					
Phe	Ser	Gly	Gly	Gly	Gly	Pro	Ala	Pro	Val	Thr	Thr	Pro	Glu	Pro	Asp									
										545			550			555						560		
His	Val	Pro	Lys	Ala	Asp	Ser	Thr	Asp	Ile	Arg	Ser	Glu	Glu	Pro	Leu									
										565			570						575					
Lys	Thr	Asp	Ser	Ser	Ala	Ser	Asn	Ser	Asn	Ser	Glu	Leu	Lys	Ala	Ile									
										580			585						590					
Arg	Pro	Pro	Cys	Pro	Asp	Thr	Ala	Pro	Pro	Ser	Ser	Ala	Leu	His	Trp									
										595			600						605					
Leu	Ala	Asp	Leu	Ala	Thr	Gln	Lys	Ala	Lys	Glu	Glu	Thr	Lys	Glu	Ala									

610	615	620
Gly Ser Leu Arg Ser Val Leu Asn Lys Glu Ser His Ser Pro Phe Gly		
625	630	635
Leu Asp Ser Phe Asn Ser Thr Ala Lys Val Ser Pro Leu Thr Pro Lys		
	645	650
Leu Phe Asn Ser Leu Leu Leu Gly Pro Thr Ala Ser Asn Asn Lys Thr		655
	660	665
Glu Gly Ser Ser Leu Arg Asp Leu Leu His Ser Gly Pro Gly Lys Leu		670
	675	680
Pro Gln Thr Pro Leu Asp Thr Gly Ile Pro Phe Pro Pro Val Phe Ser		685
	690	695
Thr Ser Ser Ala Gly Val Lys Ser Lys Ala Ser Leu Pro Asn Phe Leu		700
705	710	715
Asp His Ile Ile Ala Ser Val Val Glu Asn Lys Lys Thr Ser Asp Ala		720
	725	730
Ser Lys Arg Ala Cys Asn Leu Thr Asp Thr Gln Lys Glu Val Lys Glu		735
	740	745
Met Val Met Gly Leu Asn Val Leu Asp Pro His Thr Ser His Ser Trp		750
	755	760
Leu Cys Asp Gly Arg Leu Leu Cys Leu His Asp Pro Ser Asn Lys Asn		765
	770	775
Asn Trp Lys Ile Phe Arg Glu Cys Trp Lys Gln Gly Gln Pro Val Leu		780
785	790	795
Val Ser Gly Val His Lys Lys Leu Lys Ser Glu Leu Trp Lys Pro Glu		800
	805	810
Ala Phe Ser Gln Glu Phe Gly Asp Gln Asp Val Asp Leu Val Asn Cys		815
	820	825
Arg Asn Cys Ala Ile Ile Ser Asp Val Lys Val Arg Asp Phe Trp Asp		830
	835	840
Gly Phe Glu Ile Ile Cys Lys Arg Leu Arg Ser Glu Asp Gly Gln Pro		845
	850	855
Met Val Leu Lys Leu Lys Asp Trp Pro Pro Gly Glu Asp Phe Arg Asp		860
865	870	875
Met Met Pro Thr Arg Phe Glu Asp Leu Met Glu Asn Leu Pro Leu Pro		880
	885	890
Glu Tyr Thr Lys Arg Asp Gly Arg Leu Asn Leu Ala Ser Arg Leu Pro		895
	900	905
Ser Tyr Phe Val Arg Pro Asp Leu Gly Pro Lys Met Tyr Asn Ala Tyr		910
	915	920
Gly Leu Ile Thr Ala Glu Asp Arg Arg Val Gly Thr Thr Asn Leu His		925
	930	935
Leu Asp Val Ser Asp Ala Val Asn Val Met Val Tyr Val Gly Ile Pro		940
945	950	955
Ile Gly Glu Gly Ala His Asp Glu Glu Val Leu Lys Thr Ile Asp Glu		960
	965	970
Gly Asp Ala Asp Glu Val Thr Lys Gln Arg Ile His Asp Gly Lys Glu		975
	980	985
Lys Pro Gly Ala Leu Trp His Ile Tyr Ala Ala Lys Asp Ala Glu Lys		990
	995	1000
Ile Arg Glu Leu Leu Arg Lys Val Gly Glu Glu Gln Gly Gln Glu Asn		1005
	1010	1015
Pro Pro Asp His Asp Pro Ile His Asp Gln Ser Trp Tyr Leu Asp Gln		1020
1025	1030	1035
Thr Leu Arg Lys Arg Leu Tyr Glu Glu Tyr Gly Val Gln Gly Trp Ala		1040

	1045		1050		1055
Ile Val Gln Phe Leu Gly Asp Ala Val Phe Ile Pro Ala Gly Ala Pro					
	1060		1065		1070
His Gln Val His Asn Leu Tyr Ser Cys Ile Lys Val Ala Glu Asp Phe					
	1075		1080		1085
Val Ser Pro Glu His Val Lys His Cys Phe Arg Leu Thr Gln Glu Phe					
	1090		1095		1100
Arg His Leu Ser Asn Thr His Thr Asn His Glu Asp Lys Leu Gln Val					
1105		1110		1115	1120
Lys Asn Ile Ile Tyr His Ala Val Lys Asp Ala Val Gly Thr Leu Lys					
	1125		1130		1135
Ala His Glu Ser Lys Leu Ala Arg Ser					
	1140		1145		

&lt;210&gt; 4595

&lt;211&gt; 935

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4595

```

ggttaccaat ctgaagtggg agtggcgccc cttttttttt tttttttttt ttttttttga
60
gtcctctgag aatttattac tacggatcac agcagcaacg ggcgggaagg gcggcgccag
120
actcatttgc cccgcaggta gatcttgggg gtctgccagc cttegggggc ttccttttagc
180
cccgccttca gccagatgcg cctcaggtct ttctcgaaact tgatctgctt gcgtctcagg
240
cgccccctct ggaccttctt ccgcaggaac cgcgtcttct tcaccagctt ccggtacttg
300
tggtgggtca tcttcgcgcg gcggatcttc agcacgtttt tgcaactgaat ttgaggcgca
360
tccgcgacgc cttcateccc ctgctcgggc ctttccccta tctggctggg cggacactgg
420
taggattgcy gtggagccac agtcctgcy gtcccggtat ccagtctggg caggaagcag
480
cgggcccgtga gccagctctc cagggggctg acggacatct tcctggggac cagcatctcc
540
tccagctcca gctgggcccc cttgcgaggg agagaggccg ccctacctgg gccggccggc
600
gatngtgctg taaaggggccc cgcagaccgc gctgcccagc actccagaga cggccaaggc
660
gggtggccgc ctgccaagg aacggcctca acagctggga agtcaggcgc cccaggagca
720
tggtctgtgg gcggcgccac aggtcccagg ggagcgaaag gtcccagaac ggggaggcgc
780
gccccctccc cgggttcacc cccgcgcgaa tcgctgttgc tggcgcccgg accctctcgg
840
ctggaccccc ggccccccnn tgccgcagcg cccggcgccc tcaggcctcc cgtgaccct
900
tcccaagccc gacctcgacg cggctcaaat tgacc
935

```

&lt;210&gt; 4596

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4596

```

Asp Cys Gly Gly Ala Thr Val Pro Ala Val Pro Val Ser Ser Leu Gly
 1           5           10           15
Arg Lys Gln Arg Ala Val Ser Gln Leu Ser Arg Gly Leu Thr Asp Ile
          20           25           30
Phe Leu Gly Thr Ser Ile Ser Ser Ser Ser Trp Ala Pro Leu Arg
          35           40           45
Gly Arg Glu Ala Ala Leu Pro Gly Pro Ala Gly Asp Xaa Ala Val Lys
          50           55           60
Gly Pro Ala Asp Pro Ala Ala Gln His Ser Arg Asp Gly Gln Gly Gly
65           70           75           80
Trp Pro Pro Ala Gln Gly Thr Ala Ser Thr Ala Gly Lys Ser Gly Ala
          85           90           95
Pro Gly Ala Trp Ser Val Gly Gly Ala Thr Gly Pro Arg Gly Ala Lys
          100          105          110
Gly Pro Arg Thr Gly Arg Pro Ala Pro Ser Pro Gly Ser Pro Pro Arg
          115          120          125
Glu Ser Arg Cys Leu Ala Pro Gly Pro Ser Arg Leu Asp Pro Gly Pro
          130          135          140
Ala Xaa Ala Ala Ala Pro Gly Ala Leu Arg Pro Pro Ala Asp Pro Ser
145          150          155          160
Gln Ala Arg Pro Arg Arg Gly Ser Asn
          165

```

&lt;210&gt; 4597

&lt;211&gt; 515

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4597

```

gtgcacatcc tgacagcaca cttcgctctc tgcacgacaa ccctgagggg cggggcctcg
60
ctgcaggggc ggtgcagaca gagctgcagg acctgcttcc ctgcaggcaa tgcctcctg
120
gggacactca tgctcagtga ctgatgggat ggggggtaca aagtcaccag cacgtgattc
180
tgggaggcca ttccagctca caactcctgg gccctgggga gtcggccgtg ggacctgcct
240
cacagctcag ctctcctctt cggccccatt ctgcctcttc cgggcccttt ccagggcagt
300
aagcccaagg aactccttaa gaaacatcct cactctgaac tccactgcag agccttcttc
360
ctgggaaagc agggagcgcc ccctgcaatc acgtaatgtt tactcatccg cctccttctc
420
ggagcacctt gacggaggat gtcctccact agtgctacaa agcctagcac gtagaataag
480
ctcaacatgg ttggttgacc agagtctgag ggaac
515

```

&lt;210&gt; 4598

<211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 4598

```

Met Ser Ser Trp Gly His Ser Cys Ser Val Thr Asp Gly Met Gly Gly
 1           5           10           15
Thr Lys Ser Gln Pro Arg Asp Ser Gly Arg Pro Phe Gln Leu Thr Thr
      20           25           30
Pro Gly Pro Trp Gly Val Gly Arg Gly Thr Cys Leu Thr Ala Gln Leu
      35           40           45
Leu Leu Ser Ala Pro Phe Cys Leu Leu Pro Ala Leu Ser Gln Ala Val
      50           55           60
Ser Pro Arg Asn Ser Leu Arg Asn Ile Leu Thr Leu Asn Ser Thr Ala
65           70           75           80
Glu Pro Ser Ser Trp Glu Ser Arg Glu Arg Pro Leu Gln Ser Arg Asn
      85           90           95
Val Tyr Ser Ser Ala Ser Phe Ser Glu His Leu Asp Gly Gly Cys Ser
      100          105          110
Pro Leu Val Leu Gln Ser Leu Ala Arg Arg Ile Ser Ser Thr Trp Leu
      115          120          125
Val Asp Gln Ser Leu Arg Glu
      130          135

```

<210> 4599  
 <211> 2314  
 <212> DNA  
 <213> Homo sapiens

<400> 4599

```

ngcgcgcctc cgccgcggcc cccacctctg cctccttcta ctcgggcgcc ccggcgggccg
60
ccacctctcc ccagccccgg agaggctgcg gagccgcagc cgcccagacc gcgcagcgcg
120
ggaggcaggt tccgcacgaa ataaatcaga atgagttatg cagaaaaacc cgatgaaatc
180
acgaaagatg agtggatgga aaagctcaat aacttgcatt tccagagagc agacatgaac
240
cgctcatca tgaactacct ggtcacagag ggctttaagg aagcagcgga gaagtttcga
300
atggaatctg gaatcgaacc tagtgtggat ctggaacac ttgatgaacg aatcaagatc
360
cgggagatga tactgaaagg tcagattcag gaggccatcg ccttgatcaa cagcctccac
420
ccagagctct tggacacaaa ccggtatctt tacttccatt tgcagcaaca gcatttgatc
480
gagctgatcc gccagcggga gacagaggcg gcgctggagt ttgcacagac tcagctggcg
540
gagcagggcg aggagagccg agagtgcctc acagagatgg agcgtaccct ggcactgctg
600
gcctttgaca gtcccgagga gtcgcccttc ggagacctcc tccacaccat gcagaggcag
660
aaggtgtgga gtgaagttaa ccaagctgtg ctagattatg aaaatcgca gtcaacaccc
720

```

aaactggcaa aattactgaa actactactt tgggctcaga acgagctgga ccagaagaaa  
780  
gtaaaatata ccaaaatgac agacctcagc aagggtgtga ttgaggagcc caagtagcgc  
840  
ctgcgcttgc gtggtggatc caacaccagc cctgcgtcgt gggacttgcc tcagatcagc  
900  
ctgcgactgc aagattctta ctgcagtaga gaactctttt tctcccttgt actttttttt  
960  
gacctggcat ctttttatag ggaaaaatgg cctttgtagg cagtggaaaa cttgcaagga  
1020  
aagctgccgt ctctttggca gtctgatgca gagcctgcac tctggcactc gctgaagaat  
1080  
ctggaagggt gcggtttgct cttccagtgt tcgggggcct ctggctgctg aaggattcgg  
1140  
tctaccacgg agggctgtgc tgtaggctg catccactc aaaatacagg aaaagcacga  
1200  
atcatgatcc tgctttctgt tagcttaggc agacattggg ccttcaccta caagtttttc  
1260  
cttaccctg tggtttttgt gttttttttt ttttctttt ccataggaaa gaatatataa  
1320  
atttgtaaata cctaattcaa agatggctca tgtgtgaggg cattgagttt gatttgtttt  
1380  
ccctttggtc tgggttgtgt ggcttttggg ggatgcgtgt gagggggcta tgtgtttttt  
1440  
aattttttta atatataatt tgggtgctgtg tgtggtaaga gacttgttcc tagtggatca  
1500  
atgaaccatc tcttctgggc agttttgttg aaaataaagg tttctctttg atttcaagaa  
1560  
tgacaaaaat ggccctctaaa agatgttaat catctcaaat gaccttttgt ctttggggcg  
1620  
ttcttcccc tgtgatagcg gcagtggctt tttctggtac ctgcagctgg aaaggccact  
1680  
tggccctgtg ctgagtgagc ggccctcatt agagcgaggc agcccttggc cgggtggggac  
1740  
gcagagcccc agcagggtgt gcacgactgt tggcggaagg aacgcgtgtt catcctcagt  
1800  
gatctgccct ccagcatctc ggcagcatct catcctccat cgtcagccgg ctctgccgat  
1860  
gtcctgcttc tgttcaactca cagaactgtc ccctgctccg tgggtggcag gaggggaagt  
1920  
gtgcagggct gctgtcattg cctgcgagtc gggacagttg atgggcacat ggccctgtag  
1980  
ctctgggcac agatgtgttt ggattcattg cagcggacca ccgggcactg ttgacccac  
2040  
tgagcagtgc taagtgttg tttagtggat gtctgtggaa ttgctgatcc atccaagggc  
2100  
gtcctttgga gccagtggag cctgccggcg catctgaggg gcagaatgct gctagcactt  
2160  
gaatctggga tctgcctta ttctcaagta gcaaggcatc tcgacaagca tggcttaggt  
2220  
ctggtggcca gcttgccagt acctgagccg gtcgggtcat ctgcctctga gggaccgtcc  
2280  
tcaccgagct cctgcatccc ttgagtgttg atca  
2314

<210> 4600  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 4600  
 Met Ser Tyr Ala Glu Lys Pro Asp Glu Ile Thr Lys Asp Glu Trp Met  
 1 5 10 15  
 Glu Lys Leu Asn Asn Leu His Val Gln Arg Ala Asp Met Asn Arg Leu  
 20 25 30  
 Ile Met Asn Tyr Leu Val Thr Glu Phe Lys Glu Ala Ala Glu Lys  
 35 40 45  
 Phe Arg Met Glu Ser Gly Ile Glu Pro Ser Val Asp Leu Glu Thr Leu  
 50 55 60  
 Asp Glu Arg Ile Lys Ile Arg Glu Met Ile Leu Lys Gly Gln Ile Gln  
 65 70 75 80  
 Glu Ala Ile Ala Leu Ile Asn Ser Leu His Pro Glu Leu Leu Asp Thr  
 85 90 95  
 Asn Arg Tyr Leu Tyr Phe His Leu Gln Gln Gln His Leu Ile Glu Leu  
 100 105 110  
 Ile Arg Gln Arg Glu Thr Glu Ala Ala Leu Glu Phe Ala Gln Thr Gln  
 115 120 125  
 Leu Ala Glu Gln Gly Glu Glu Ser Arg Glu Cys Leu Thr Glu Met Glu  
 130 135 140  
 Arg Thr Leu Ala Leu Leu Ala Phe Asp Ser Pro Glu Glu Ser Pro Phe  
 145 150 155 160  
 Gly Asp Leu Leu His Thr Met Gln Arg Gln Lys Val Trp Ser Glu Val  
 165 170 175  
 Asn Gln Ala Val Leu Asp Tyr Glu Asn Arg Glu Ser Thr Pro Lys Leu  
 180 185 190  
 Ala Lys Leu Leu Lys Leu Leu Leu Trp Ala Gln Asn Glu Leu Asp Gln  
 195 200 205  
 Lys Lys Val Lys Tyr Pro Lys Met Thr Asp Leu Ser Lys Gly Val Ile  
 210 215 220  
 Glu Glu Pro Lys  
 225

<210> 4601  
 <211> 916  
 <212> DNA  
 <213> Homo sapiens

<400> 4601  
 aagcttaaca aacaacagtt gcagttactg aaagaacggt tccaggcctt cctcaatggg  
 60  
 gaaacccaaa ttgtagctga cgaagcattt tgcaacgcag ttcggagtta ttatgaggtt  
 120  
 tttctaaaga gtgaccgagt ggccagaatg gtacagagtg gaggggtgttc tgctaatagac  
 180  
 ttcagagaag tatttaagaa aaacatagaa aaacgtgtgc ggagtttgcc agaaatagat  
 240  
 ggcttgagca aagagacagt gttgagctca tggatagcca aatatgatgc catttacaga  
 300



ggtgaagagg acttgtgcaa acagccaaat agaatggccc taagtgcagt gtctgaactt  
 360  
 attctgagca aggaacaact ctatgaaatg ttccagcaga ttctgggtat taaaaaacta  
 420  
 gaacaccagc tcctttataa tgcattgtcag ctggataacg cagatgaaca agcagcccag  
 480  
 atcagaaggg aacttgatgg ccggctgcaa ttggcagata aaatggcaaa ggaaagaaaa  
 540  
 ttccccaat ttatagcaaa agatatggag aatatgtata tagaagagtt gcggtcttca  
 600  
 gtgaatttgc taatggccaa tttggaaagt cttccagttt cgaaagggtg tccggaattt  
 660  
 aaattacaaa aattaaaacg ttcacagaac tctgcatttt tggacatagg agatgagaat  
 720  
 gagattcagc tgtcaaagtc cgacgtggta ctgtcattca ccttagagat tgtcataatg  
 780  
 gaagtgaag gcctgaagtc agttgctccc aatcgaattg tttactgtac aatggaagtg  
 840  
 gaaggagaaa aacttcagac agaccaggcc gaagcctcaa ggccacaatg gggggactca  
 900  
 ggggaatttc accccc  
 916

&lt;210&gt; 4602

&lt;211&gt; 305

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4602

Lys	Leu	Asn	Lys	Gln	Gln	Leu	Gln	Leu	Leu	Lys	Glu	Arg	Phe	Gln	Ala
1				5					10					15	
Phe	Leu	Asn	Gly	Glu	Thr	Gln	Ile	Val	Ala	Asp	Glu	Ala	Phe	Cys	Asn
		20						25					30		
Ala	Val	Arg	Ser	Tyr	Tyr	Glu	Val	Phe	Leu	Lys	Ser	Asp	Arg	Val	Ala
		35					40					45			
Arg	Met	Val	Gln	Ser	Gly	Gly	Cys	Ser	Ala	Asn	Asp	Phe	Arg	Glu	Val
	50					55				60					
Phe	Lys	Lys	Asn	Ile	Glu	Lys	Arg	Val	Arg	Ser	Leu	Pro	Glu	Ile	Asp
65				70					75					80	
Gly	Leu	Ser	Lys	Glu	Thr	Val	Leu	Ser	Ser	Trp	Ile	Ala	Lys	Tyr	Asp
			85					90						95	
Ala	Ile	Tyr	Arg	Gly	Glu	Glu	Asp	Leu	Cys	Lys	Gln	Pro	Asn	Arg	Met
		100						105					110		
Ala	Leu	Ser	Ala	Val	Ser	Glu	Leu	Ile	Leu	Ser	Lys	Glu	Gln	Leu	Tyr
		115					120					125			
Glu	Met	Phe	Gln	Gln	Ile	Leu	Gly	Ile	Lys	Lys	Leu	Glu	His	Gln	Leu
	130					135					140				
Leu	Tyr	Asn	Ala	Cys	Gln	Leu	Asp	Asn	Ala	Asp	Glu	Gln	Ala	Ala	Gln
145				150					155					160	
Ile	Arg	Arg	Glu	Leu	Asp	Gly	Arg	Leu	Gln	Leu	Ala	Asp	Lys	Met	Ala
			165					170						175	
Lys	Glu	Arg	Lys	Phe	Pro	Lys	Phe	Ile	Ala	Lys	Asp	Met	Glu	Asn	Met
		180						185					190		
Tyr	Ile	Glu	Glu	Leu	Arg	Ser	Ser	Val	Asn	Leu	Leu	Met	Ala	Asn	Leu

[illegible]

```
<210> 4603
<211> 2090
<212> DNA
<213> Homo sapiens
```

```

<400> 4603
gcagagcggg ccggccaaga gccctcaag accatcctgg atgccagga cctggattgc
60
tactttaccc ccatgaagcc cgagagtctg gagaactcca ttctggattc actggagcca
120
cagagcctgg ccagcctgct gagtgagtca gagagtcccc aggaagctgg ccgcgggcac
180
ccctccttcc tgccccagca gaaggaatca tctgaggcca gtgagctcat cctctactct
240
ctggaggcag aagtgacagt cacagggaca gacagccagt attgcaggaa ggaggtggag
300
gccgggcctg gagaccagca gggcgactcc tacctcaggg tgcctccga cagcccaaag
360
gaccagagcc cgctgagga ctcgggggag tcagaggccg acctggagtg cagcttcgca
420
gccatccact ccccagctcc gectcctgac cctgccccctc ggtttgccac gtcgctgccc
480
catttcccag gatgcgcagg tcccacagaa gatgagctgt ccctgcccga gggaccagc
540
gtccccagca gctccctacc ccagactccg gagcaggaga agttcctccg ccaccacttt
600
gagacactga ctgagtcccc ctgcagagct ctgggagacg tggaggcctc tgaagctgaa
660
gaccacttct tcaaccacag cctgagtatc tccacgcagt tcctctcaag cctccagaag
720
gcatccaggt tcaccatac cttcctcccc cgggcaacct agtgccttgt gaagtctcca
780
gaggtcaagc tcatggaccg aggcggaagc cagcccagag caggtactgg ctacgcctcc
840
ccagacagga cccacgtcct cgctgcaggg aaggctgaag agaccctgga ggctggcgc
900
ccaccacctc cctgccttac gagcctggcg tcctgtgtcc ctgcttcctc cgtgctgccc
960

```

acagatagga atctcccaac gcccacatct gcacccaccc caggcctggc tcagggtgtc  
 1020  
 catgccccct ccacctgttc ctacatggag gccactgcc a gctcccgtgc caggatatca  
 1080  
 cgcagcatct ccctcgggtga cagtgagggc cctatcgtgg ccacactggc ccagccccctc  
 1140  
 cgtaggccat cgtccgttgg ggagctggcc tccttggggc aggagcttca ggccatcacc  
 1200  
 accgcgacaa caccagttt ggacagttag ggccaagagc ctgccctgcg ttcctggggc  
 1260  
 aaccacgagg ccggggccaa cctgagactg accctgtcaa gtgcctgtga tgggctcctg  
 1320  
 ctgccccccg tggataccca gcctggcgtc accgtccctg cagttagctt ccagccccct  
 1380  
 agccctgtgg aagagagcgc cctgaggctc cacggctctg cctttcgccc aagtctccca  
 1440  
 gctcctgagt cccctggcct tctgcccac ccagtaacc ccagcttcc agaggcccg  
 1500  
 cctggcatcc ctggcgccac tgcctccctc ctggagccca cctccggtgc acttggtctg  
 1560  
 ttccagggca gccctgcccc ctggagttag ccctgggtgc cggttgaagc cctgccccca  
 1620  
 tctccccttg agctgagcgg gtggggaaca tcttgacag gctgcagacc accttccaag  
 1680  
 aagccctega cctttaccgt gtgttggtct ccagtggcca ggtggacacc gggcagcagc  
 1740  
 aggcacggac tgagctggtc tccaccttcc tgtggatcca cagccagctg gaggctgaat  
 1800  
 gcctggtggg gactagtgtg gcccagccc aggtctctgc cagcccagga cccccgtccc  
 1860  
 caccgacgct gtacccccctg gccagcccag acctgcaggc cctgctggaa cactactcgg  
 1920  
 agctgctggt gcaggccgtg cggaggaagg cacgggggca ctgagggcgc agccccctca  
 1980  
 ccgcagccct gctgcttctg aggacttagg tattttaagc gaataaaactg acagctttga  
 2040  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2090

&lt;210&gt; 4604

&lt;211&gt; 666

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4604

Ala	Glu	Arg	Ala	Gly	Gln	Glu	Pro	Leu	Lys	Thr	Ile	Leu	Asp	Ala	Gln
1				5					10					15	
Asp	Leu	Asp	Cys	Tyr	Phe	Thr	Pro	Met	Lys	Pro	Glu	Ser	Leu	Glu	Asn
			20					25					30		
Ser	Ile	Leu	Asp	Ser	Leu	Glu	Pro	Gln	Ser	Leu	Ala	Ser	Leu	Leu	Ser
		35					40					45			
Glu	Ser	Glu	Ser	Pro	Gln	Glu	Ala	Gly	Arg	Gly	His	Pro	Ser	Phe	Leu
	50					55					60				
Pro	Gln	Gln	Lys	Glu	Ser	Ser	Glu	Ala	Ser	Glu	Leu	Ile	Leu	Tyr	Ser

65					70					75				80
Leu	Glu	Ala	Glu	Val	Thr	Val	Thr	Gly	Thr	Asp	Ser	Gln	Tyr	Cys Arg
				85					90					95
Lys	Glu	Val	Glu	Ala	Gly	Pro	Gly	Asp	Gln	Gln	Gly	Asp	Ser	Tyr Leu
			100					105					110	
Arg	Val	Ser	Ser	Asp	Ser	Pro	Lys	Asp	Gln	Ser	Pro	Pro	Glu	Asp Ser
		115					120					125		
Gly	Glu	Ser	Glu	Ala	Asp	Leu	Glu	Cys	Ser	Phe	Ala	Ala	Ile	His Ser
	130					135				140				
Pro	Ala	Pro	Pro	Pro	Asp	Pro	Ala	Pro	Arg	Phe	Ala	Thr	Ser	Leu Pro
145					150				155					160
His	Phe	Pro	Gly	Cys	Ala	Gly	Pro	Thr	Glu	Asp	Glu	Leu	Ser	Leu Pro
				165				170						175
Glu	Gly	Pro	Ser	Val	Pro	Ser	Ser	Ser	Leu	Pro	Gln	Thr	Pro	Glu Gln
		180						185					190	
Glu	Lys	Phe	Leu	Arg	His	His	Phe	Glu	Thr	Leu	Thr	Glu	Ser	Pro Cys
	195						200					205		
Arg	Ala	Leu	Gly	Asp	Val	Glu	Ala	Ser	Glu	Ala	Glu	Asp	His	Phe Phe
	210					215				220				
Asn	Pro	Arg	Leu	Ser	Ile	Ser	Thr	Gln	Phe	Leu	Ser	Ser	Leu	Gln Lys
225					230				235					240
Ala	Ser	Arg	Phe	Thr	His	Thr	Phe	Pro	Pro	Arg	Ala	Thr	Gln	Cys Leu
			245					250					255	
Val	Lys	Ser	Pro	Glu	Val	Lys	Leu	Met	Asp	Arg	Gly	Gly	Ser	Gln Pro
			260					265					270	
Arg	Ala	Gly	Thr	Gly	Tyr	Ala	Ser	Pro	Asp	Arg	Thr	His	Val	Leu Ala
	275						280					285		
Ala	Gly	Lys	Ala	Glu	Glu	Thr	Leu	Glu	Ala	Trp	Arg	Pro	Pro	Pro Pro
	290					295				300				
Cys	Leu	Thr	Ser	Leu	Ala	Ser	Cys	Val	Pro	Ala	Ser	Ser	Val	Leu Pro
305					310					315				320
Thr	Asp	Arg	Asn	Leu	Pro	Thr	Pro	Thr	Ser	Ala	Pro	Thr	Pro	Gly Leu
			325					330					335	
Ala	Gln	Gly	Val	His	Ala	Pro	Ser	Thr	Cys	Ser	Tyr	Met	Glu	Ala Thr
		340						345					350	
Ala	Ser	Ser	Arg	Ala	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Leu	Gly	Asp Ser
	355					360					365			
Glu	Gly	Pro	Ile	Val	Ala	Thr	Leu	Ala	Gln	Pro	Leu	Arg	Arg	Pro Ser
	370					375				380				
Ser	Val	Gly	Glu	Leu	Ala	Ser	Leu	Gly	Gln	Glu	Leu	Gln	Ala	Ile Thr
385					390				395					400
Thr	Ala	Thr	Thr	Pro	Ser	Leu	Asp	Ser	Glu	Gly	Gln	Glu	Pro	Ala Leu
				405				410					415	
Arg	Ser	Trp	Gly	Asn	His	Glu	Ala	Arg	Ala	Asn	Leu	Arg	Leu	Thr Leu
		420						425					430	
Ser	Ser	Ala	Cys	Asp	Gly	Leu	Leu	Pro	Pro	Val	Asp	Thr	Gln	Pro
		435					440				445			
Gly	Val	Thr	Val	Pro	Ala	Val	Ser	Phe	Pro	Ala	Pro	Ser	Pro	Val Glu
	450					455				460				
Glu	Ser	Ala	Leu	Arg	Leu	His	Gly	Ser	Ala	Phe	Arg	Pro	Ser	Leu Pro
465					470				475					480
Ala	Pro	Glu	Ser	Pro	Gly	Leu	Pro	Ala	His	Pro	Ser	Asn	Pro	Gln Leu
				485				490					495	
Pro	Glu	Ala	Arg	Pro	Gly	Ile	Pro	Gly	Gly	Thr	Ala	Ser	Leu	Leu Glu

500 505 510  
 Pro Thr Ser Gly Ala Leu Gly Leu Phe Gln Gly Ser Pro Ala Arg Trp  
 515 520 525  
 Ser Glu Pro Trp Val Pro Val Glu Ala Leu Pro Pro Ser Pro Leu Glu  
 530 535 540  
 Leu Ser Gly Trp Gly Thr Ser Cys Thr Gly Cys Arg Pro Pro Ser Lys  
 545 550 555 560  
 Lys Pro Ser Thr Phe Thr Val Cys Trp Ser Pro Val Ala Arg Trp Thr  
 565 570 575  
 Pro Gly Ser Ser Arg His Gly Leu Ser Trp Ser Pro Pro Ser Cys Gly  
 580 585 590  
 Ser Thr Ala Ser Trp Arg Leu Asn Ala Trp Trp Gly Leu Val Trp Pro  
 595 600 605  
 Gln Pro Arg Leu Cys Pro Ala Gln Asp Pro Arg Pro His Arg Arg Cys  
 610 615 620  
 Thr Pro Trp Pro Ala Gln Thr Cys Arg Pro Cys Trp Asn Thr Thr Arg  
 625 630 635 640  
 Ser Cys Trp Cys Arg Pro Cys Gly Gly Arg His Gly Gly Thr Glu Gly  
 645 650 655  
 Ala Ala Pro Pro Gln Pro Cys Cys Phe  
 660 665

&lt;210&gt; 4605

&lt;211&gt; 2998

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4605

nnaacgcgtgg ctcgaaataa gggttggtgat gactacgtgg tgctcaaagt ggatgtggtg  
 60  
 atgaaaccgg ccaagattga acacaaggag gagaacgacc acaaagtctt ctacgggggt  
 120  
 gacctgaaag tggactgtgt ggccaccggg cttcccaatc ccgagatctc ctggagcctc  
 180  
 ccagacggga gtctggtgaa ctccctcatg cagtcggatg acagcgggtg acgcaccaag  
 240  
 cgctatgtcg tcttcaacaa tgggacactc tactttaacg aagtggggat gaggaggaa  
 300  
 ggagactaca cctgctttgc tgaaaatcag gtcgggaagg acgagatgag agtcagagtc  
 360  
 aaggtggtga cagcgcccg caccatccgg aacaagactt gcttggcggt tcaggtgccc  
 420  
 tatggagacg tggtcactgt agcctgtgag gccaaaggag aacccatgcc caaggtgact  
 480  
 tggttgtccc caaccaacaa ggtgatcccc acctcctctg agaagtatca gatataccaa  
 540  
 gatggcactc tccttattca gaaagcccag cgttctgaca gcggcaacta cacctgcttg  
 600  
 gtcaggaaca gcgcgggaga ggataggaag acggtgtgga ttcacgtcaa cgtccagcca  
 660  
 cccaagatca acggtaaccc caacccatc accactgtgc gggagatagc agccgggggc  
 720  
 agtcggaaac tgattgactg caaagctgaa ggcaccccca ccccgagggt gttatgggct  
 780

tttcccagggtgtgtgttct gccagctcca tactatggaa accggatcac tgtccatggc  
840  
aacggttccc tggacatcag gagtttgagg aagagcgact ccgtccagct ggtatgcatg  
900  
gcacgcaacg agggagggga ggccaggttg atcctgcagc tcaactgtcct ggagcccatg  
960  
gagaaaccca tcttccacga cccgatcagc gagaagatca cggccatggc gggccacacc  
1020  
atcagcctca actgctctgc cgcggggacc ccgacaccca gcctgggtgtg ggtccttccc  
1080  
aatggcaccg atctgcagag tggacagcag ctgcagcgct tctaccacaa ggctgacggc  
1140  
atgctacaca ttagcgggtct ctctcgggtg gacgctgggg cctaccgctg cgtggcccgc  
1200  
aatgccgctg gccacacgga gaggtgtgtc tccctgaagg tgggactgaa gccagaagca  
1260  
aacaagcagt atcataacct ggtcagcatc atcaatgggtg agaccctgaa gctccccctg  
1320  
acccctcccc gggctgggca gggacgtttc tcttgagcgc tccccaatgg catgcatctg  
1380  
gagggccccc aaaccctggg acgcgtttct cttctggaca atggcaccct cagggttcgt  
1440  
gaggcctcgg tgtttgacag ggggtacctat gtatgcagga tggagacgga gtacggccct  
1500  
tcggtcacca gcatccccgt gattgtgatc gcctatcctc cccggatcac cagcgagccc  
1560  
accccggtca tctacacccg gcccggaac accgtgaaac tgaactgcat ggctatgggg  
1620  
attcccaaag ctgacatcac gtgggagtta ccggataagt cgcacttgaa ggcaggggtt  
1680  
caggctcgtc tgtatggaaa cagatttctt cccccagg gatcactgac catccagcat  
1740  
gccacacaga gagatgccgg cttctacaag tgcattggcaa aaaacattct cggcagtgac  
1800  
tccaaaacaa cttacatcca cgtcttctga aatgtggatt ccagaatgat tgcttaggaa  
1860  
ctgacaacaa agcgggggtt gtaagggaag ccaggttggg gaataggagc tcttaaataa  
1920  
tgtgtcacag tgcattgggtg cctctgggtg gtttcaagtt gaggttgatc ttgatctaca  
1980  
attgttggga aaaggaagca atgcagacac gagaaggagg gtcagcctt gctgagacac  
2040  
tttcttttgt gtttacatca tgccaggggc ttcattcagg gtgtctgtgc tctgactgca  
2100  
atttttcttt ttttgcaaat gccactcgac tgccttcata agcgtccata ggatatctga  
2160  
ggaacattca tcaaaaataa gccatagaca tgaacaacac ctactaccc cattgaagac  
2220  
gcatcaccta gttaacctgc tgcagttttt acatgataga ctttgttcca gattgacaag  
2280  
tcattcttca gttatttctt ctgtcacttc aaaactccag cttgccaat aaggatttag  
2340  
aaccagagt actgatatat atatatattt taattcagag ttacatacat acagctacca  
2400

ttttatatga aaaaagaaaa acattttcttc ctggaactca ctttttatat aatgttttat  
 2460  
 atatattttt tttcttttca aatcagacga tgagactaga aggagaaata ctttctgtct  
 2520  
 tattaaaatt aataaattat tggctctttac aagacttgga tacattacag cagacatgga  
 2580  
 aatataattt taaaaaattt ctctccaacc tccttcaaat tcagtcacca ctgttatatt  
 2640  
 acctttctcca ggaaccctcc agtggggaag gctgcgatat tagatttcct tgtatgcaaa  
 2700  
 gtttttggtg aaagctgtgc tcagaggagg tgagaggaga ggaaggagaa aactgcatca  
 2760  
 taactttaca gaattgaatc tagagtcttc cccgaaaagc ccagaaactt ctctgcagta  
 2820  
 tctggcttgt ccatctgggc taaggctggc gcttcttccc cagccatgag tcagtttgtg  
 2880  
 cccatgaata atacacgacc tgttatttcc atgactgctt tactgtattt ttaagggtcaa  
 2940  
 tatactgtac atttgataat aaaataatat tctcccaaaa aaaaaaaaaa aaaaaaag  
 2998

<210> 4606

<211> 584

<212> PRT

<213> Homo sapiens

<400> 4606

Ile	Glu	His	Lys	Glu	Glu	Asn	Asp	His	Lys	Val	Phe	Tyr	Gly	Gly	Asp
1				5					10					15	
Leu	Lys	Val	Asp	Cys	Val	Ala	Thr	Gly	Leu	Pro	Asn	Pro	Glu	Ile	Ser
			20					25					30		
Trp	Ser	Leu	Pro	Asp	Gly	Ser	Leu	Val	Asn	Ser	Phe	Met	Gln	Ser	Asp
		35					40					45			
Asp	Ser	Gly	Gly	Arg	Thr	Lys	Arg	Tyr	Val	Val	Phe	Asn	Asn	Gly	Thr
	50					55					60				
Leu	Tyr	Phe	Asn	Glu	Val	Gly	Met	Arg	Glu	Glu	Gly	Asp	Tyr	Thr	Cys
65				70					75					80	
Phe	Ala	Glu	Asn	Gln	Val	Gly	Lys	Asp	Glu	Met	Arg	Val	Arg	Val	Lys
			85					90					95		
Val	Val	Thr	Ala	Pro	Ala	Thr	Ile	Arg	Asn	Lys	Thr	Cys	Leu	Ala	Val
			100					105					110		
Gln	Val	Pro	Tyr	Gly	Asp	Val	Val	Thr	Val	Ala	Cys	Glu	Ala	Lys	Gly
	115						120				125				
Glu	Pro	Met	Pro	Lys	Val	Thr	Trp	Leu	Ser	Pro	Thr	Asn	Lys	Val	Ile
	130					135					140				
Pro	Thr	Ser	Ser	Glu	Lys	Tyr	Gln	Ile	Tyr	Gln	Asp	Gly	Thr	Leu	Leu
145				150					155					160	
Ile	Gln	Lys	Ala	Gln	Arg	Ser	Asp	Ser	Gly	Asn	Tyr	Thr	Cys	Leu	Val
			165					170					175		
Arg	Asn	Ser	Ala	Gly	Glu	Asp	Arg	Lys	Thr	Val	Trp	Ile	His	Val	Asn
	180						185					190			
Val	Gln	Pro	Pro	Lys	Ile	Asn	Gly	Asn	Pro	Asn	Pro	Ile	Thr	Thr	Val
	195					200					205				
Arg	Glu	Ile	Ala	Ala	Gly	Gly	Ser	Arg	Lys	Leu	Ile	Asp	Cys	Lys	Ala

210	215	220
Glu Gly Ile Pro Thr	Pro Arg Val Leu Trp	Ala Phe Pro Glu Gly Val
225	230	235
Val Leu Pro Ala Pro Tyr Tyr Gly Asn Arg	Ile Thr Val His Gly Asn	240
245	250	255
Gly Ser Leu Asp Ile Arg Ser Leu Arg Lys Ser Asp Ser	Val Gln Leu	
260	265	270
Val Cys Met Ala Arg Asn Glu Gly Gly Glu Ala Arg Leu Ile Leu Gln		
275	280	285
Leu Thr Val Leu Glu Pro Met Glu Lys Pro Ile Phe His Asp Pro Ile		
290	295	300
Ser Glu Lys Ile Thr Ala Met Ala Gly His Thr Ile Ser Leu Asn Cys		
305	310	315
Ser Ala Ala Gly Thr Pro Thr Pro Ser Leu Val Trp Val Leu Pro Asn		
325	330	335
Gly Thr Asp Leu Gln Ser Gly Gln Gln Leu Gln Arg Phe Tyr His Lys		
340	345	350
Ala Asp Gly Met Leu His Ile Ser Gly Leu Ser Ser Val Asp Ala Gly		
355	360	365
Ala Tyr Arg Cys Val Ala Arg Asn Ala Ala Gly His Thr Glu Arg Leu		
370	375	380
Val Ser Leu Lys Val Gly Leu Lys Pro Glu Ala Asn Lys Gln Tyr His		
385	390	395
Asn Leu Val Ser Ile Ile Asn Gly Glu Thr Leu Lys Leu Pro Cys Thr		
405	410	415
Pro Pro Gly Ala Gly Gln Gly Arg Phe Ser Trp Thr Leu Pro Asn Gly		
420	425	430
Met His Leu Glu Gly Pro Gln Thr Leu Gly Arg Val Ser Leu Leu Asp		
435	440	445
Asn Gly Thr Leu Thr Val Arg Glu Ala Ser Val Phe Asp Arg Gly Thr		
450	455	460
Tyr Val Cys Arg Met Glu Thr Glu Tyr Gly Pro Ser Val Thr Ser Ile		
465	470	475
Pro Val Ile Val Ile Ala Tyr Pro Pro Arg Ile Thr Ser Glu Pro Thr		
485	490	495
Pro Val Ile Tyr Thr Arg Pro Gly Asn Thr Val Lys Leu Asn Cys Met		
500	505	510
Ala Met Gly Ile Pro Lys Ala Asp Ile Thr Trp Glu Leu Pro Asp Lys		
515	520	525
Ser His Leu Lys Ala Gly Val Gln Ala Arg Leu Tyr Gly Asn Arg Phe		
530	535	540
Leu His Pro Gln Gly Ser Leu Thr Ile Gln His Ala Thr Gln Arg Asp		
545	550	555
Ala Gly Phe Tyr Lys Cys Met Ala Lys Asn Ile Leu Gly Ser Asp Ser		
565	570	575
Lys Thr Thr Tyr Ile His Val Phe		
580		

&lt;210&gt; 4607

&lt;211&gt; 456

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4607



nnagatctct gagggataga ttgccagaga aggggaagtt tcagtcagg catatgtgca  
 60  
 gagccttgat caattgagga aaagaaaggc tgttttacac aagagagaag ctgatgttgt  
 120  
 ttatgcactt cctaggtagt tagaaacaaa cctgtggcaa ggcaggctcc tggcaaacgg  
 180  
 aagtgcatt gtcggcaaga gatgaggacc acccagctgg gccctgggag cttccaaatg  
 240  
 acccaggagg tggctctgca cgaatgccct aatgtcaaac tagtgaatga agaacgaacg  
 300  
 ctggaagtag aaatagagcc tggggtgaga gacggcatgg agtaccctt tattggagaa  
 360  
 ggtgagcctc acgtggatgg gnagcctgga gatttacggt tccgaatcaa agttgtcaag  
 420  
 cacccaatat ttgaaaggag aggagatgat ctgtac  
 456

&lt;210&gt; 4608

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4608

Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly	Lys	Arg	Lys
1				5					10					15	
Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu	Gly	Pro	Gly	Arg
			20					25					30		
Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu	Cys	Pro	Asn	Val	Lys
		35					40					45			
Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val	Glu	Ile	Glu	Pro	Gly	Val
	50					55					60				
Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile	Gly	Glu	Gly	Glu	Pro	His	Val
65					70				75					80	
Asp	Gly	Xaa	Pro	Gly	Asp	Leu	Arg	Phe	Arg	Ile	Lys	Val	Val	Lys	His
			85					90						95	
Pro	Ile	Phe	Glu	Arg	Arg	Gly	Asp	Asp	Leu	Tyr					
			100					105							

&lt;210&gt; 4609

&lt;211&gt; 904

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4609

ncggccgcgc cgctgcagat ggcggaatg gatccggtag ccgagttccc ccagcctccc  
 60  
 ggtgctgcgc gctgggctga gggttatggct cgcttcgcgc ccaggctggg cgcgccagggc  
 120  
 cggcgggtgg tggttggttac gtcaggcggc accaaggctc cactggaagc gcggccgggtg  
 180  
 cgcttcctgg acaacttcag cagcgggagg cgcggtgcaa cctcggccga ggccttccta  
 240  
 gccgcggct acggggctct gttcttgat cgcgctcgct ctgcctccc ctatgccac  
 300

cgcttcccac cccagacttg gctgtccgct ctgcggcctt cgggcccagc cctttcgggc  
 360  
 ttgctgagcc tggaggccga ggagaatgca ctcccggtt ttgctgaggc tctgaggagc  
 420  
 taccaggagg ctgcggctgc aggcaccttc ctggcagtag agttcaccac tttggcggac  
 480  
 tatttgcata tgttgaggc tgcggcccag gcactcaatc cgctaggccc ttctgcgatg  
 540  
 ttttacctgg ctgcggctgt gtcagatttc tatgttcctg tctctgaaat gcctgaacac  
 600  
 aagatccagt catctggggg cccactgcag ggaaaagtgc agttagaaga cataacttcac  
 660  
 catcttgaaa aagaagaaat caatcccctt gctactacag aagaacaact ctgtttgggtg  
 720  
 cttattccag ccagcacagt gaagacaggc tgaggactgc taccacagat gtagaagagc  
 780  
 ttatagttaa gcacatgggt gaaacaaaag aagtgagaac taatagcata gaatttttaa  
 840  
 gacacctgtg attttgttca ttgcccttca ttaaattgac atattaaaaa aaaaaaaaaa  
 900  
 aaaa  
 904

<210> 4610  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

<400> 4610  
 Xaa Ala Ala Ala Leu Gln Met Ala Glu Met Asp Pro Val Ala Glu Phe  
 1 5 10 15  
 Pro Gln Pro Pro Gly Ala Ala Arg Trp Ala Glu Val Met Ala Arg Phe  
 20 25 30  
 Ala Ala Arg Leu Gly Ala Gln Gly Arg Arg Val Val Leu Val Thr Ser  
 35 40 45  
 Gly Gly Thr Lys Val Pro Leu Glu Ala Arg Pro Val Arg Phe Leu Asp  
 50 55 60  
 Asn Phe Ser Ser Gly Arg Arg Gly Ala Thr Ser Ala Glu Ala Phe Leu  
 65 70 75 80  
 Ala Ala Gly Tyr Gly Val Leu Phe Leu Tyr Arg Ala Arg Ser Ala Phe  
 85 90 95  
 Pro Tyr Ala His Arg Phe Pro Pro Gln Thr Trp Leu Ser Ala Leu Arg  
 100 105 110  
 Pro Ser Gly Pro Ala Leu Ser Gly Leu Leu Ser Leu Glu Ala Glu Glu  
 115 120 125  
 Asn Ala Leu Pro Gly Phe Ala Glu Ala Leu Arg Ser Tyr Gln Glu Ala  
 130 135 140  
 Ala Ala Ala Gly Thr Phe Leu Ala Val Glu Phe Thr Thr Leu Ala Asp  
 145 150 155 160  
 Tyr Leu His Leu Leu Gln Ala Ala Ala Gln Ala Leu Asn Pro Leu Gly  
 165 170 175  
 Pro Ser Ala Met Phe Tyr Leu Ala Ala Ala Val Ser Asp Phe Tyr Val  
 180 185 190  
 Pro Val Ser Glu Met Pro Glu His Lys Ile Gln Ser Ser Gly Gly Pro

	195		200		205										
Leu	Gln	Gly	Lys	Val	Gln	Leu	Glu	Asp	Ile	Leu	His	His	Leu	Glu	Lys
	210		215		220										
Glu	Glu	Ile	Asn	Pro	Leu	Ala	Thr	Thr	Glu	Glu	Gln	Leu	Cys	Leu	Val
225					230				235					240	
Leu	Ile	Pro	Ala	Ser	Thr	Val	Lys	Thr	Gly						
				245					250						

&lt;210&gt; 4611

&lt;211&gt; 1946

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4611

```

cccgggggctt cggcgggcggc ggcccgcgag gggcctgggc gcatgcgcag cgagggttcca
60
cgtgagcgcc tgcgtttctc ctcaaacctc acgatgccgc cggagcggag gagacgaatg
120
aaactggacc ggagaaccgg agcgaagccg aagcggaaag ccggaatgag gccggactgg
180
aaagccggag cggggccagg cgggcctccc caaaagcctg ccccttcac ctagcggaag
240
ccgccggccc ggccgagcgc ggcggccgct gcgattgcag tcgcggcggc ggaggaagag
300
agacggctcc ggcagcggaa ccgcctgagg ctggaggagg acaaaccggc cgtggagcgg
360
tgcttgagg agctggtctt cggcgacgtc gagaacgacg aggacgcgtt gctgcggcgt
420
ctgcgaggcc cgagggttca agaacatgaa gactcgggtg actcagaagt ggagaatgaa
480
gcaaaaggta attttccacc tcaaaagaag ccagtttggg tggatgaaga agatgaagat
540
gaggaaatgg ttgacatgat gaacaatcgg ttccggaagg atatgatgaa aaatgctagt
600
gaaagtaaac ttccgaaaga caaccttaaa aagagactta aagaagaatt ccaacatgcc
660
atgggaggag tacctgcctg ggcagagact actaagcggg aaacatcttc agatgatgaa
720
agtgaagagg atgaagatga tttgttgcaa aggactggga atttcatatc cacatcaact
780
tctcttccaa gaggcattct gaagatgaag aactgccagc atgcgaatgc tgaacgtcct
840
actgttgctc ggatctcatc tgtgcagttc catcccgggt cacagattgt gatggttgct
900
ggattagata atgctgtatc actatttcag gttgatggga aaacaaatcc taaaattcag
960
agcatctatt tggaaagggt tccaatcttt aaggcttggt ttagtgctaa tggggaagaa
1020
gttttagcca cgagtacca cagcaagggt ctttatgtct atgacatgct ggctggaaag
1080
ttaattcctg tgcatacagt gagaggtttg aaagagaaga tagtgaggag ctttgaagtc
1140
tccccagatg ggtccttctt gctcataaat ggcattgctg gatatttgca tttgctagca
1200

```

atgaagacca aagaactgat tgggaagcatg aaaattaatg gaaggggtgc agcatccaca  
 1260  
 ttctcttcag atagtaagaa agtatacgcc tcttcggggg atggagaagt ttatgtttgg  
 1320  
 gatgtgaact caaggaagtg ccttaacaga tttgttgatg aaggcagttt atatggatta  
 1380  
 agcattgccca catctaggaa tggacagtat gttgcttggtg gttctaattg tggagtggta  
 1440  
 aatatatata atcaagattc ttgtctccaa gaaacaaacc caaagccaat aaaagctata  
 1500  
 atgaacttgg ttacaggtgt tacttctctg accttcaatc ctactacaga aatcttggca  
 1560  
 attgcttcag aaaaaatgaa agaagcagtc agattgggtc atcttccttc ctgtacagta  
 1620  
 ttttcaaact tcccagtcac taaaaataag aatatttctc atgttcatac catggatttt  
 1680  
 tctccgagaa gtggatactt tgccttgggg aatgaaaagg gcaaggccct gatgtatagg  
 1740  
 ttgcaccatt actcagactt ctaaagagac tatttgaagt ccagttgagt cacaagagaa  
 1800  
 gcctgtcttg atatatcatc tcagaaactt tcctgaatat gtgataatat atggaaaatg  
 1860  
 atttatagat ccagctgtgc ttaagagcca gtaatgtctt aataaacatg tggcagcttt  
 1920  
 tgtttgaaaa aaaaaaaaaa aaaaaa  
 1946

&lt;210&gt; 4612

&lt;211&gt; 532

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4612

Met Arg Pro Asp Trp Lys Ala Gly Ala Gly Pro Gly Gly Pro Pro Gln  
 1 5 10 15  
 Lys Pro Ala Pro Ser Ser Gln Arg Lys Pro Pro Ala Arg Pro Ser Ala  
 20 25 30  
 Ala Ala Ala Ala Ile Ala Val Ala Ala Glu Glu Glu Arg Arg Leu  
 35 40 45  
 Arg Gln Arg Asn Arg Leu Arg Leu Glu Glu Asp Lys Pro Ala Val Glu  
 50 55 60  
 Arg Cys Leu Glu Glu Leu Val Phe Gly Asp Val Glu Asn Asp Glu Asp  
 65 70 75 80  
 Ala Leu Leu Arg Arg Leu Arg Gly Pro Arg Val Gln Glu His Glu Asp  
 85 90 95  
 Ser Gly Asp Ser Glu Val Glu Asn Glu Ala Lys Gly Asn Phe Pro Pro  
 100 105 110  
 Gln Lys Lys Pro Val Trp Val Asp Glu Glu Asp Glu Asp Glu Glu Met  
 115 120 125  
 Val Asp Met Met Asn Asn Arg Phe Arg Lys Asp Met Met Lys Asn Ala  
 130 135 140  
 Ser Glu Ser Lys Leu Ser Lys Asp Asn Leu Lys Lys Arg Leu Lys Glu  
 145 150 155 160  
 Glu Phe Gln His Ala Met Gly Gly Val Pro Ala Trp Ala Glu Thr Thr

**<400> 4613**

cgccgcgctg tacacacagg cctataatag tgacacgctg gtgagtgttc tgggcactgt  
 60  
 gcctgcagtg ttcccttgcg gggcagggtc tgctctacac atgcacaagc tctggtgttt  
 120  
 ctttaaggcg tttgatttct gaagattgac aagggtctgt ttattgtata ttatgtttaa  
 180  
 tgatctcagt tgtaatattg tcaagatttg gggtgtgaag attaggaagt ccttacagt  
 240  
 aaactcattg ctcatcgta gattcccggt tgtaaactca tttccacgtg taaactcatt  
 300  
 tgacgttggg gccagacagg tgacaggaga gggagttggg cctcgtgggg atagtggcaa  
 360  
 attgggacgt ggcattgttt cattaaagcg aggtgttctt ccctgtcggc tgcgtgtctc  
 420  
 tgtggcatgg ggctagcctg ccctgccct gcag  
 454

<210> 4614

<211> 117

<212> PRT

<213> Homo sapiens

<400> 4614

Met	Pro	Arg	Pro	Asn	Leu	Pro	Leu	Ser	Pro	Arg	Gly	Pro	Thr	Pro	Ser
1				5				10						15	
Pro	Val	Thr	Cys	Leu	Ala	Pro	Thr	Ser	Asn	Glu	Phe	Thr	Arg	Gly	Asn
			20					25					30		
Glu	Phe	Thr	Asn	Gly	Asn	Leu	Thr	Met	Ser	Asn	Glu	Phe	His	Cys	Lys
		35					40					45			
Asp	Phe	Leu	Ile	Phe	Thr	Thr	Gln	Ile	Leu	Thr	Ile	Leu	Gln	Leu	Arg
	50					55				60					
Ser	Leu	Asn	Ile	Ile	Tyr	Asn	Lys	Gln	Asn	Leu	Val	Asn	Leu	Gln	Lys
65					70					75				80	
Ser	Asn	Ala	Leu	Lys	Lys	His	Gln	Ser	Leu	Cys	Met	Cys	Arg	Thr	Asp
			85						90				95		
Pro	Ala	Pro	Gln	Gly	Asn	Thr	Ala	Gly	Thr	Val	Pro	Arg	Thr	Leu	Thr
			100					105					110		
Ser	Val	Ser	Leu	Leu											
			115												

<210> 4615

<211> 1350

<212> DNA

<213> Homo sapiens

<400> 4615

nntgattcgg tcccgtgtgc ctaggcggga tgggtccgct gtgccagggt gaagtattgt  
 60  
 attttgcaaa aagtgtgaa ataacaggag ttcgttcaga gaccatttct gtgcctcaag  
 120  
 aaataaaagc gttgcagctg tggaaggaga tagaaactcg acatcctgga ttggctgatg  
 180  
 ttagaaatca gataatattt gctgttcgtc aagaatatgt cgagcttgga gatcagctcc  
 240

tcgtgcttca gcctggagac gaaattgccg ttatcccccc cattagtgga ggatagtgct  
 300  
 tttgagccat ctaggaaaga tatggatgaa gttgaagaga aatctaaaga tggtataaac  
 360  
 tttactgccg agaaactttc agtagatgaa gtctcacagt tggtgatttc tccgctctgt  
 420  
 ggtgcaatat ccctatttgt agggactaca agaaataact ttgaagggaa aaaagtcatt  
 480  
 agcttagaat atgaagcata tctacccatg gcggaaaaatg aagtcagaaa gatttgtagt  
 540  
 gacattaggc agaaatggcc agtcaaacac atagcagtgt tccatctgct tggcttggtt  
 600  
 ccagtgtcag aagcaagcac agttattgct gtgtcctcag cccacagagc tgcattctct  
 660  
 gaagctgtga gctatgccat tgattcttta aaagccaagg tgcccatatg gaaaaaggaa  
 720  
 atatatgaag agtcatcaac ttggaaagga aacaaagagt gcttttgggc atccaacagt  
 780  
 taatcactta tgtttttaga gcatgcaatc ttaactttgt taaactatta ttattgatca  
 840  
 cattttgatt tttttctctc cacatcagga tagtttactg aagcacaatc tcttatacta  
 900  
 gtgggacaaa agggagaaaa aggaagcaag ataaatgggt atgtaggatg aagggttatt  
 960  
 taaaatggaa ctaaagatag aaggaggact gtaggaagaa atggaataat taaatgtga  
 1020  
 ggaaagatat ctgtggtaga catgtccttc catgactaat ttctaattgt aactcaacac  
 1080  
 acattgaggt atggggccctc ctcatgact ttaactagct cagaaacgta ctccccacc  
 1140  
 aacccacct caccgcccc catcccggtt ctgggagagc attgttatta aggatgcatg  
 1200  
 acaggaatgt tggcagaact ggaaagtatt aaaaaagcat tatcagacag tcttgatatt  
 1260  
 atacattttc agaaatatat taaaaataat aaactaaaac ccatgatttc aaaagttaa  
 1320  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1350

<210> 4616

<211> 188

<212> PRT

<213> Homo sapiens

<400> 4616

Met	Ser	Ser	Leu	Glu	Ile	Ser	Se.	Ser	Cys	Phe	Ser	Leu	Glu	Thr	Lys
1				5				10					15		
Leu	Pro	Leu	Ser	Pro	Pro	Leu	Val	Glu	Asp	Ser	Ala	Phe	Glu	Pro	Ser
		20					25					30			
Arg	Lys	Asp	Met	Asp	Glu	Val	Glu	Glu	Lys	Ser	Lys	Asp	Val	Ile	Asn
		35				40					45				
Phe	Thr	Ala	Glu	Lys	Leu	Ser	Val	Asp	Glu	Val	Ser	Gln	Leu	Val	Ile
	50					55					60				
Ser	Pro	Leu	Cys	Gly	Ala	Ile	Ser	Leu	Phe	Val	Gly	Thr	Thr	Arg	Asn

65		70		75		80									
Asn	Phe	Glu	Gly	Lys	Lys	Val	Ile	Ser	Leu	Glu	Tyr	Glu	Ala	Tyr	Leu
		85		90		95									
Pro	Met	Ala	Glu	Asn	Glu	Val	Arg	Lys	Ile	Cys	Ser	Asp	Ile	Arg	Gln
		100		105		110									
Lys	Trp	Pro	Val	Lys	His	Ile	Ala	Val	Phe	His	Leu	Leu	Gly	Leu	Val
		115		120		125									
Pro	Val	Ser	Glu	Ala	Ser	Thr	Val	Ile	Ala	Val	Ser	Ser	Ala	His	Arg
		130		135		140									
Ala	Ala	Ser	Leu	Glu	Ala	Val	Ser	Tyr	Ala	Ile	Asp	Ser	Leu	Lys	Ala
145				150		155									160
Lys	Val	Pro	Ile	Trp	Lys	Lys	Glu	Ile	Tyr	Glu	Glu	Ser	Ser	Thr	Trp
		165		170		175									
Lys	Gly	Asn	Lys	Glu	Cys	Phe	Trp	Ala	Ser	Asn	Ser				
		180		185											

&lt;210&gt; 4617

&lt;211&gt; 2266

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4617

```

tccggagccg ggggactgcg acggcctgtc gcctggacaa caaggaaagc gagtcctggg
60
gggctctgct gagcggagag cggctggaca cctggatctg ctccctcctg ggttcctca
120
tggtggggct cagtgggggtc ttcccggtgc ttgtcattcc cctagagatg gggaccatgc
180
tgcgctcaga agctggggcc tgggcgcctg aagcagctgc tcagcttcgc cctggggggga
240
ctcttgggca atgtgtttct gcattctgctg cccgaagcct gggcctacac gtgcagcgcc
300
agccctgggtg gtgaggggca gagcctgcag cagcagcaac agctggggct gtgggtcatt
360
gctggcatcc tgaccttctt ggcgttggag aagatgttcc tggacagcaa ggaggagggg
420
accagccagg cccccaacaa agacccact gctgctgccc ccgcactcaa tggaggccac
480
tgtctggccc agccgactgc agagcccggc ctccgtgccc tggtcgggag catcaaagtc
540
agcggctacc tcaacctgct ggccaacacc atcgataact tcaccacagg gctggctgtg
600
gctgccagct tccttgtgag caagaagatc gggctcctga caaccatggc catcctcctg
660
catgagatcc cccatgaggt gggcgacttt gccatcctgc tccgggcccg ctttgaccga
720
tggagcgag ccaagctgca actctcaaca gcgctggggg gcctactggg cgctggcttc
780
gccatctgta cccagtcccc caaggagta gaggagacgg cagcctgggt cctgcccttc
840
acctctggcg gctttctcta catcgcttg gtgaacgtgc tccctgacct cttggaagaa
900
gaggaccgt ggcgctccct gcagcagctg cttctgctct gtgcgggcat cgtggtaatg
960

```



gtgctgttct cgctcttcgt ggattaactt tccctgatgc cgacgcccct gccccctgca  
 1020  
 gcaataagat gctcggattc actctgtgac cgcatatgtg agaggcagag agggcgagtg  
 1080  
 gctgcgagag agaatgagcc tcccgcagaga caggagggag gtgctgtgtg atgtatgtgg  
 1140  
 tgtgcacatg tggccagagg tgtgtgcgcg agaccgacac tgtgatccct gtgctgggtc  
 1200  
 cggggcccag tgtagcgctt gtccccagcc atgctgtggt tacctctcct tgccgcccctg  
 1260  
 tcaccttcac ctctggagt aagcagcgag gaagagcagc actggtecca agcagaggcc  
 1320  
 ttgccctgct gggaccccgg gagtgcagagc agcccaagga tcccagggtg cagggaactc  
 1380  
 cagagctgcc cacctccac tgccccctca gcacacacac agtccccagg cggcctaggg  
 1440  
 gccaaaggctg ggggcggctt tggteccctt tcttggctct tcttcccca cttctaagcc  
 1500  
 aaagaaagga gaggcagggt ctctgttacc ccagccccac tcagcactga cagtccccag  
 1560  
 ctctagtag tgagctggga ggcgcttcct aagaccctt cctcagggtt gccctgggag  
 1620  
 ctcttctctg gccaacacgc cctggcagca ccagcagctc ttgccacctc cagctgccaa  
 1680  
 acagcagcct gccgggcagg gagcagcccc aggcagaga ggcctcccgg tccagctcag  
 1740  
 ggatgctcct gccagcacag gggccaggga ctctggagc aggcacatag tgagcccggg  
 1800  
 cagccctgcc cagctcaggc ccttttctt cccattgag gttggggtag gtgggggcgg  
 1860  
 tgagggctcc acgttgctcag cgctcaggaa tgtgctccgg cagagtgtg aagccataat  
 1920  
 cccaacat ttccttggc tgacgcccag gtactcagct ggcccactcc acagccaggc  
 1980  
 ctggccctgc ccttcaccgt ggatgttttc agaagtggcc atcgagaggt ctggatggtt  
 2040  
 ttatagcaac tttgctgtga ttccgtttgt atctgtaaat atttgttcta tagataagat  
 2100  
 acaataaat attatccaca tactggctgc cttggttctg cagccttcc atgggcagca  
 2160  
 gggccttctt tactgccact gccaggccct ttttctgaa aaaaaaaaaa aaaaaaaaaa  
 2220  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 2266

<210> 4618

<211> 197

<212> PRT

<213> Homo sapiens

<400> 4618

Met	Phe	Leu	Asp	Ser	Lys	Glu	Glu	Gly	Thr	Ser	Gln	Ala	Pro	Asn	Lys
1				5				10					15		
Asp	Pro	Thr	Ala	Ala	Ala	Ala	Ala	Leu	Asn	Gly	Gly	His	Cys	Leu	Ala

20							25					30				
Gln	Pro	Thr	Ala	Glu	Pro	Gly	Leu	Gly	Ala	Val	Val	Arg	Ser	Ile	Lys	
		35					40					45				
Val	Ser	Gly	Tyr	Leu	Asn	Leu	Leu	Ala	Asn	Thr	Ile	Asp	Asn	Phe	Thr	
		50				55					60					
His	Gly	Leu	Ala	Val	Ala	Ala	Ser	Phe	Leu	Val	Ser	Lys	Lys	Ile	Gly	
65					70					75					80	
Leu	Leu	Thr	Thr	Met	Ala	Ile	Leu	Leu	His	Glu	Ile	Pro	His	Glu	Val	
				85					90					95		
Gly	Asp	Phe	Ala	Ile	Leu	Leu	Arg	Ala	Gly	Phe	Asp	Arg	Trp	Ser	Ala	
			100				105					110				
Ala	Lys	Leu	Gln	Leu	Ser	Thr	Ala	Leu	Gly	Gly	Leu	Leu	Gly	Ala	Gly	
		115					120				125					
Phe	Ala	Ile	Cys	Thr	Gln	Ser	Pro	Lys	Gly	Val	Glu	Glu	Thr	Ala	Ala	
		130				135					140					
Trp	Val	Leu	Pro	Phe	Thr	Ser	Gly	Gly	Phe	Leu	Tyr	Ile	Ala	Leu	Val	
145					150					155				160		
Asn	Val	Leu	Pro	Asp	Leu	Leu	Glu	Glu	Glu	Asp	Pro	Trp	Arg	Ser	Leu	
				165				170						175		
Gln	Gln	Leu	Leu	Leu	Leu	Cys	Ala	Gly	Ile	Val	Val	Met	Val	Leu	Phe	
			180				185					190				
Ser	Leu	Phe	Val	Asp												
		195														

<210> 4619

<211> 539

<212> DNA

<213> Homo sapiens

<400> 4619

cgggggaacttc ttgattgagg tagggacaca ggtgtctgta tctttctgct tggggagagag  
60  
gccgactctc ggggagaggg tcgtagtcct ggcagcacag ccacgaggcc cagtctgggg  
120  
gtgcttgtgg aggctgccat gaactttcat tggccaattt ctcccacccg ggggtgcacc  
180  
tgcctgggaa cctggggttg ggcctggcct gaaggccttg gccgtaacct gttggaagga  
240  
ggaaaagtct gtggaatttg gtcattggtc ttgaagtaga aggtagaaag aggagggcatg  
300  
tgggtcccat gatgttgggg acatgtgcag acctgtgggt ggtttagttagt ttgcttaata  
360  
gggccccaaag aggagtcatt gtcctttctt gtgtcctatg ggtgagtcgg caaccactct  
420  
tgtgtggcag ttgctggcgt gaggtctgta acattgatgg ctaagagcct gtagatttgc  
480  
aggtttgtgat aaccacccca tcagatggac gatggccttc caagaccaag gagccccggg  
539

<210> 4620

<211> 103

<212> PRT

<213> Homo sapiens

&lt;400&gt; 4620

Met Gly Thr Thr Cys Leu Leu Phe Leu Pro Ser Thr Ser Arg Pro Met  
 1 5 10 15  
 Thr Lys Phe His Arg Leu Phe Leu Leu Pro Thr Gly Tyr Gly Gln Gly  
 20 25 30  
 Leu Gln Ala Arg Pro Asn Pro Arg Phe Pro Gly Arg Cys Thr Pro Gly  
 35 40 45  
 Trp Glu Lys Leu Thr Asn Glu Ser Ser Trp Gln Pro Pro Gln Ala Pro  
 50 55 60  
 Pro Asp Trp Ala Ser Trp Leu Cys Cys Gln Asp Tyr Asp Pro Leu Pro  
 65 70 75 80  
 Glu Ser Arg Arg Ser Pro Gln Ala Glu Arg Tyr Arg His Leu Cys Pro  
 85 90 95  
 Tyr Leu Asn Gln Glu Val Pro  
 100

&lt;210&gt; 4621

&lt;211&gt; 2588

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4621

ncttcctctc tggccgcgag cccctcttgt gattggtaag accttcccag ctgtgacagc  
 60  
 tgagcccaac tcgactctgt gaaacgtacc ccacccccca gcccttcttc cagtccccct  
 120  
 ctcccatgag gagaccact ctgctcccac cctctgaaaa cctaaagcac agcccaaact  
 180  
 cccaccccc gacagcatacc tagggagctc ctagtcctgg taaaacggca ggagtagggc  
 240  
 tggggatgct gagaaaggaa ccaggaatcc tgtccaggca ggtcctacct ctgcccattg  
 300  
 ggctggccct catgtctggg tcttctcact ctactctcat tactcctccg cgctgtcaa  
 360  
 acccctcatt gttcgcagct gatgtcactc gcagttgtga gcggccgcct ctcccgggga  
 420  
 caatgtggga ctgagcggcc cagccgccgt gccgccgccg ccgccgccgc aggacagccc  
 480  
 cagcgaggcc atttccagca catagaagag agattggaaa ccaacgtgca gaactgccag  
 540  
 tcccctgaca cgctgtgccc caccactgc agcccagtgc tgaatgaacc ctgccagag  
 600  
 gtgtctgtag tgagcttctg ccctagtgc ttttgagccg gccaggttgc agcgcgga  
 660  
 cactgcagg tcgtgtggc cccagcctcg cctgacagaa tgagcggctc ggacggggga  
 720  
 ctggaggagg agccagagct cagcatcacc ctacgctgc ggatgctgat gcacgggaag  
 780  
 gaagtgggca gcatcatcgg gaagaaggc gagactgtaa agcgaatccg ggagcagagc  
 840  
 agtgcccgga tcaccatctc cgagggtcc tgccctgaac gcatcaccac catcaccggg  
 900  
 tctacagcag ctgtcttcca tgcagtctcc atgattgctt tcaaactgga tgaggacctt  
 960

tgtgctgctc ctgcaaatgg tggaaatgtc tccaggcctc cagtgaacct gcgccttgtc  
1020  
atccctgcc a gtcagtgtgg ctactgatt gggaaggctg gcaccaagat caaggagatc  
1080  
cgagagacta cgggtgcccc ggtacagggtg gcaggggacc tgctcccca ctccacagag  
1140  
cgagctgtta cggatatctgg ggtgcctgat gccatcatcc tgtgtgtgcg ccagatctgc  
1200  
gctgttatcc tggagtcccc acccaaagga gccactatcc cctaccatcc gagcctctcc  
1260  
ctagggtactg ttcttctctc tgccaaccag ggcttctctg tccagggtca gtatggggct  
1320  
gtgacccccag ctgaggtcac caagctccag cagctctcaa gccatgcggg cccctttgccc  
1380  
acacccagcg tgggtgccagg actggatccc ggcacacaga ccagctcaca ggagtctctg  
1440  
gttcccaacg atttgattgg ctgtgtgatc gggcgccagg gcagcaagat cagcgagatc  
1500  
cggcagatgt caggggcaca tatcaagatc gggaaccaag cagagggcgc tggggagcgg  
1560  
catgtcacca tcaactggctc tccggctctc atcgccctgg cccagtacct catcactgcc  
1620  
tgtctagaga cggccaagtc tacctctggg gggacgcctg gctcagcccc cgagacctg  
1680  
cccacccctt tctcgccacc cctgacggcc ctgcccacag ctccccagg cctgctgggc  
1740  
acaccttatg ccctctccct ctccaacttc atcgccctca agcctgtgcc ctctctggct  
1800  
ctaccacctg ctccccagg gccaccgccc ggcttggcgg cctacactgc caagatggca  
1860  
gcggccaatg ggagcaagaa agctgaacgg cagaaattct cccctactg aggcagctg  
1920  
aggtagaggc aggggcaggc aggaccacca gcagggggct gcctctgcac cctaccgcc  
1980  
caaggagact ccacctggg gtcccaaacg ccgctaacgc ccagacgcat ggatgcaccc  
2040  
cctaccctgc ctccatctat gggagttctt tctctcagag tgggggcagt ttctggccca  
2100  
ggggtctgag ctgcggcagc cccagggcag ggggccctac ctctcagct ctgtgcttgg  
2160  
atacagggag cagccaggag actccctagt gccccacca tggcgggtgt cactcacgca  
2220  
ctccccatcc cttagggctt cctggcctac tgcctcttg tgggagtcag ggaggagggc  
2280  
ccgttgggta gctggggcca ggcttctctc cccaccacct gcagatttct tgctgcttcc  
2340  
actgataccc ttttgactgg aatgaactgg ctgggcttgt cagggggcac cccaaagagg  
2400  
gggcactgcc aggtagctgg gggagtggca tggggcaggg gccagttct cagcagcaga  
2460  
cactctgtac agttttttca atccctgttt ttgaataaat attctcagcg accaaaaaaaa  
2520  
aaaaaaaaaa aaaaaaaaaa aaaacacaac aaaacttacc attcctcctt actcaaacac  
2580

ccccccct  
2588

<210> 4622  
<211> 403  
<212> PRT  
<213> Homo sapiens

<400> 4622

```

Met Ser Gly Ser Asp Gly Gly Leu Glu Glu Glu Pro Glu Leu Ser Ile
 1           5           10           15
Thr Leu Thr Leu Arg Met Leu Met His Gly Lys Glu Val Gly Ser Ile
      20           25           30
Ile Gly Lys Lys Gly Glu Thr Val Lys Arg Ile Arg Glu Gln Ser Ser
      35           40           45
Ala Arg Ile Thr Ile Ser Glu Gly Ser Cys Pro Glu Arg Ile Thr Thr
      50           55           60
Ile Thr Gly Ser Thr Ala Ala Val Phe His Ala Val Ser Met Ile Ala
      65           70           75           80
Phe Lys Leu Asp Glu Asp Leu Cys Ala Ala Pro Ala Asn Gly Gly Asn
      85           90           95
Val Ser Arg Pro Pro Val Thr Leu Arg Leu Val Ile Pro Ala Ser Gln
      100          105          110
Cys Gly Ser Leu Ile Gly Lys Ala Gly Thr Lys Ile Lys Glu Ile Arg
      115          120          125
Glu Thr Thr Gly Ala Gln Val Gln Val Ala Gly Asp Leu Leu Pro Asn
      130          135          140
Ser Thr Glu Arg Ala Val Thr Val Ser Gly Val Pro Asp Ala Ile Ile
      145          150          155          160
Leu Cys Val Arg Gln Ile Cys Ala Val Ile Leu Glu Ser Pro Pro Lys
      165          170          175
Gly Ala Thr Ile Pro Tyr His Pro Ser Leu Ser Leu Gly Thr Val Leu
      180          185          190
Leu Ser Ala Asn Gln Gly Phe Ser Val Gln Gly Gln Tyr Gly Ala Val
      195          200          205
Thr Pro Ala Glu Val Thr Lys Leu Gln Gln Leu Ser Ser His Ala Val
      210          215          220
Pro Phe Ala Thr Pro Ser Val Val Pro Gly Leu Asp Pro Gly Thr Gln
      225          230          235          240
Thr Ser Ser Gln Glu Phe Leu Val Pro Asn Asp Leu Ile Gly Cys Val
      245          250          255
Ile Gly Arg Gln Gly Ser Lys Ile Ser Glu Ile Arg Gln Met Ser Gly
      260          265          270
Ala His Ile Lys Ile Gly Asn Gln Ala Glu Gly Ala Gly Glu Arg His
      275          280          285
Val Thr Ile Thr Gly Ser Pro Val Ser Ile Ala Leu Ala Gln Tyr Leu
      290          295          300
Ile Thr Ala Cys Leu Glu Thr Ala Lys Ser Thr Ser Gly Gly Thr Pro
      305          310          315          320
Gly Ser Ala Pro Ala Asp Leu Pro Thr Pro Phe Ser Pro Pro Leu Thr
      325          330          335
Ala Leu Pro Thr Ala Pro Pro Gly Leu Leu Gly Thr Pro Tyr Ala Ile
      340          345          350
Ser Leu Ser Asn Phe Ile Gly Leu Lys Pro Val Pro Phe Leu Ala Leu

```

	355		360		365	
Pro	Pro	Ala	Ser	Pro	Gly	Pro
	370				375	
Lys	Met	Ala	Ala	Ala	Asn	Gly
385					390	
Ser	Pro	Tyr				

<210> 4623  
 <211> 2220  
 <212> DNA  
 <213> Homo sapiens

<400> 4623  
 ntgatcacca agacacacaa agtagacctt gggctcccag agaagaaaaa gaagaagaaa  
 60  
 gtggtcaaag aaccagagac tcgataactca gtttttaaaca atgatgatta ctttgctgat  
 120  
 gtttctcctt taagagctac atccccctct aagagtgtgg cccatgggca ggcacctgag  
 180  
 atgcctctag tgaagaaaaa gaagaagaaa aagaagggtg tcagcacctt ttgcgaggag  
 240  
 catgtagaac ctgagaccac gctgcctgct agacggacag agaagtcacc cagcctcagg  
 300  
 aagcagggtg ttggccactt ggagttcctc agtggggaaa agaaaaataa gaagtcacct  
 360  
 ctagccatgt cccatgcctc tggggtgaaa acctccccag accctagaca gggtagaggag  
 420  
 gaaaccagag ttggcaagaa gctcaaaaaa cacaagaagg aaaaaaaggg ggcccaggac  
 480  
 cccacagcct tctcgggtcca ggacccttgg ttctgtgagg ccagggaggc cagggatggt  
 540  
 ggggacactt gctcagtggg gaagaaggat gaggaacagg cagccttggg gcagaaacgg  
 600  
 aagcggaaga gccccagaga acacaatggg aaggtgaaga agaaaaaaaa aatccaccag  
 660  
 gagggagatg ccctcccagg ccaactccaag ccctccagggt ccatggagag cagccctagg  
 720  
 aaaggaagta aaaagaagcc agtcaaagtt gaggtccgg aatacatccc cataagtgat  
 780  
 gaccctaagg cctccgcaaa gaaaaagatg aagtccaaaa agaaggtaga gcagccagtc  
 840  
 atcgaggagc cagctctgaa aaggaagaaa aagaagaaga ggaaagagag tggggtagca  
 900  
 ggagaccctt ggaaggagga aacagacacg gacttagagg tgggtgttga aaaaaaaggc  
 960  
 aacatggatg aggcgcacat agaccagggt aggcgaaagg ccttgcaaga agagatcgat  
 1020  
 cgcgagtcag gcaaaacgga agcttctgaa accaggaagt ggacgggaac ccagtttggc  
 1080  
 cagtgggata ctgctggttt tgagaacgag gacaaaaaac tgaaatttct cagacttatg  
 1140  
 ggtggcttca aaaacctgtc cccttcgttc agccgccccg ccagcacgat tgcaaggccc  
 1200

aacatggccc tcggcaagaa ggcggctgac agcctgcagc agaatctgca gcgggactac  
 1260  
 gaccggggcca tgagctggaa gtacagccgg ggagccggcc tcggcttctc caccgcccc  
 1320  
 aacaagatct ttacattga caggaacgct tccaagtcag tcaagctgga agattaaact  
 1380  
 ctagagtttt gtccccccaa aactgccaca attgctttga ttattccatt tatgctggag  
 1440  
 attacaaatt ttttttgtga aaaaatcaga tcttggtgag gacctcgagc agtaagatat  
 1500  
 aaataactcc cataagctta gcgttccagt aatggaacac taggcataaa tggtttatcc  
 1560  
 agttgtgcaa atgaaagcca tctgacagtt ggctcacatt gaacacctgt ggagattaag  
 1620  
 gacgaggaca actatattga tgggcttgga tgaactgggg cagggcagct catatttcgg  
 1680  
 gagccaggag aacgagttag tgctaaaacc tctgttttc tgtgttaaac attccgtccc  
 1740  
 tgtttgagac atcagtatgt acagttaact tttgttgagt gtttagcagg tactagggac  
 1800  
 atactagtgt tttccttaat gtatttaatc ttcataatta tgaaatgggt gctattatta  
 1860  
 gccccatctt atagatgagg caactgaggt tcagggataa agtaataaaa ttgcctgggg  
 1920  
 tcaccagcc actaagtga ggtgttgta cttttgtacc cgaagcccta agttcactat  
 1980  
 tcgccactct gaatgtcccc tttagggaa tccaccaga atcctcggtg gggattgaaa  
 2040  
 tgtctttaga tggaggaaaa agttttatga caagtctgca tctctgataa aaagtggagt  
 2100  
 gaatgaggaa cggagaatcg caagtcctt ttccttcctt ttcctttccc ctgtcataga  
 2160  
 gcagctgtag gcagagaggt gtctgagttg ttaccaaaca catgtgactg agctgctgct  
 2220

&lt;210&gt; 4624

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4624

Met	Lys	Ser	Lys	Lys	Lys	Val	Glu	Gln	Pro	Val	Ile	Glu	Glu	Pro	Ala
1				5					10					15	
Leu	Lys	Arg	Lys	Lys	Lys	Lys	Lys	Arg	Lys	Glu	Ser	Gly	Val	Ala	Gly
			20					25					30		
Asp	Pro	Trp	Lys	Glu	Glu	Thr	Asp	Thr	Asp	Leu	Glu	Val	Val	Leu	Glu
			35				40					45			
Lys	Lys	Gly	Asn	Met	Asp	Glu	Ala	His	Ile	Asp	Gln	Val	Arg	Arg	Lys
			50				55				60				
Ala	Leu	Gln	Glu	Glu	Ile	Asp	Arg	Glu	Ser	Gly	Lys	Thr	Glu	Ala	Ser
65					70				75					80	
Glu	Thr	Arg	Lys	Trp	Thr	Gly	Thr	Gln	Phe	Gly	Gln	Trp	Asp	Thr	Ala
			85					90					95		
Gly	Phe	Glu	Asn	Glu	Asp	Gln	Lys	Leu	Lys	Phe	Leu	Arg	Leu	Met	Gly

100	105	110
Gly Phe Lys Asn Leu Ser Pro Ser Phe Ser Arg Pro Ala Ser Thr Ile		
115	120	125
Ala Arg Pro Asn Met Ala Leu Gly Lys Lys Ala Ala Asp Ser Leu Gln		
130	135	140
Gln Asn Leu Gln Arg Asp Tyr Asp Arg Ala Met Ser Trp Lys Tyr Ser		
145	150	155
Arg Gly Ala Gly Leu Gly Phe Ser Thr Ala Pro Asn Lys Ile Phe Tyr		
165	170	175
Ile Asp Arg Asn Ala Ser Lys Ser Val Lys Leu Glu Asp		
180	185	

&lt;210&gt; 4625

&lt;211&gt; 334

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4625

cgggagcagc ggaagctgca ggagaaggag cagcagcggc ggctggagga catgcaggct  
 60  
 ctgcggcggg aggaggagcg gcggcaggcg gagcgcgagc aggaatacaa gcggaaacag  
 120  
 ctggaggagc agcggcagtc agaacgtctc cagaggcagc tgcagcagga gcatgcctac  
 180  
 ctaaagtccc tgcagcagca gcaacagcag cagcagcttc agaaacagca gcagcagcag  
 240  
 ctccctgcctg gggacaggaa gcccctgtac cattatgggc ggggcatgaa tcccgcctgac  
 300  
 aaaccagcct gggcccgaga gggagaagag agac  
 334

&lt;210&gt; 4626

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4626

Arg Glu Gln Arg Lys Leu Gln Glu Lys Glu Gln Gln Arg Arg Leu Glu		
1	5	10
Asp Met Gln Ala Leu Arg Arg Glu Glu Glu Arg Arg Gln Ala Glu Arg		
20	25	30
Glu Gln Glu Tyr Lys Arg Lys Gln Leu Glu Glu Gln Arg Gln Ser Glu		
35	40	45
Arg Leu Gln Arg Gln Leu Gln Gln Glu His Ala Tyr Leu Lys Ser Leu		
50	55	60
Gln Gln Gln Gln Gln Gln Gln Gln Leu Gln Lys Gln Gln Gln Gln		
65	70	75
Leu Leu Pro Gly Asp Arg Lys Pro Leu Tyr His Tyr Gly Arg Gly Met		
85	90	95
Asn Pro Ala Asp Lys Pro Ala Trp Ala Arg Glu Gly Glu Glu Arg		
100	105	110

&lt;210&gt; 4627

&lt;211&gt; 1736



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4627

nnagttgcct tgacctgcag ctccggcacc gcggacccgc cttctgccct cagcagcaga  
60  
cgctctgtcc cgcccgggca gctctgcgag gcagcggctg gagagggaac catggggact  
120  
gtgcacgccc ggagtttgga gcctcttcca tcaagtggac ctgattttgg aggattagga  
180  
gaagaagctg aatttggtga agttgagcct gaagctaaac aggaaattct tgaaaacaaa  
240  
gatgtggttg ttcaacatgt tcattttgat ggacttggaa ggactaaaga tgatatcatc  
300  
at ttgtgaaa ttggagatgt tttcaaggcc aaaaacctaa ttgaggtaat gcggaaatct  
360  
catgaagccc gtgaaaaatt gctccgtctt ggaattttta gacaagtgga tgttttgatt  
420  
gacacatgtc aaggatgatg gcgacttcca aatggggttag acgttacctt tgaagtaact  
480  
gaattgagga gattaacggg cagttataac accatgggtg ggaacaatga aggcagtatg  
540  
gtacttggcc tcaagcttcc taatcttctt ggtcgtgcag aaaagggtgac ctttcagttt  
600  
tcctatggaa caaaagaaac ttcgtatggc ctgtccttct tcaaaccacg gcccggaac  
660  
ttcgaaagaa atttctctgt aaacttatat aaagttactg gacagttccc ttggagctca  
720  
ctgctgggaga cggacagagg aatgtcagct gagtacagtt ttcccatatg gaagaccagc  
780  
cacactgtca agtgggaagg cgtatggcga gaactgggct gcctctcaag gacggcgtca  
840  
tttgctgttc gaaaagaaag cggacattca ctgaaatcat ctctttcgca cgccatggtc  
900  
atcgattctc ggaattcttc catcttacca aggagagggtg ctttgctgaa agttaaccag  
960  
gaactggcag gctacactgg cggggatgtg agcttcatca aagaagattt tgaacttcag  
1020  
ttgaacaagc aactcatatt tgattcagtt ttttcagcgt ctttctgggg cggaatgttg  
1080  
gtaccattg gtgataagcc gtcaagcatt gctgataggt ttaccttgg gggaccaca  
1140  
agcgtccgag gattcagcat gcacagcatc gggccacaga gcgaaggaga ctacctaggt  
1200  
ggagaagcgt actgggcccgg cggcctgcac ctctacaccc cattacctt ccggccaggc  
1260  
cagggtggct ttggagaact tttccgaaca cacttcttct tcaacgcagg aaacctctgc  
1320  
aacctcaact atggggaggg ccccaaagct catattcgta agctggctga gtgcatccgc  
1380  
tggctgtacg gggccgggat tgtcctcagg cttggcaaca tcgctcggtt ggaacttaat  
1440  
tactgcgtcc ccatgggagt acagacaggc gacaggatat gtgatggcgt ccagtttgga  
1500

gctgggataa gggtcctgta gccgacaccc ctacaggaga agctctggga ctggggcagc  
 1560  
 agcaaggcgc ccatgccaca caccgtctct cgaggaaacg cggttcagcg attctttgac  
 1620  
 tgcggaccct gtgggaaacc ccgtcaataa atgttaaaga cacactcaaa aaaaaaaaaa  
 1680  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1736

<210> 4628

<211> 469

<212> PRT

<213> Homo sapiens

<400> 4628

Met	Gly	Thr	Val	His	Ala	Arg	Ser	Leu	Glu	Pro	Leu	Pro	Ser	Ser	Gly
1				5					10					15	
Pro	Asp	Phe	Gly	Gly	Leu	Gly	Glu	Glu	Ala	Glu	Phe	Val	Glu	Val	Glu
			20					25					30		
Pro	Glu	Ala	Lys	Gln	Glu	Ile	Leu	Glu	Asn	Lys	Asp	Val	Val	Val	Gln
		35					40					45			
His	Val	His	Phe	Asp	Gly	Leu	Gly	Arg	Thr	Lys	Asp	Asp	Ile	Ile	Ile
	50					55					60				
Cys	Glu	Ile	Gly	Asp	Val	Phe	Lys	Ala	Lys	Asn	Leu	Ile	Glu	Val	Met
65					70					75					80
Arg	Lys	Ser	His	Glu	Ala	Arg	Glu	Lys	Leu	Leu	Arg	Leu	Gly	Ile	Phe
				85					90					95	
Arg	Gln	Val	Asp	Val	Leu	Ile	Asp	Thr	Cys	Gln	Gly	Asp	Gly	Ala	Leu
			100					105					110		
Pro	Asn	Gly	Leu	Asp	Val	Thr	Phe	Glu	Val	Thr	Glu	Leu	Arg	Arg	Leu
		115					120					125			
Thr	Gly	Ser	Tyr	Asn	Thr	Met	Val	Gly	Asn	Asn	Glu	Gly	Ser	Met	Val
	130					135					140				
Leu	Gly	Leu	Lys	Leu	Pro	Asn	Leu	Leu	Gly	Arg	Ala	Glu	Lys	Val	Thr
145					150					155					160
Phe	Gln	Phe	Ser	Tyr	Gly	Thr	Lys	Glu	Thr	Ser	Tyr	Gly	Leu	Ser	Phe
				165					170					175	
Phe	Lys	Pro	Arg	Pro	Gly	Asn	Phe	Glu	Arg	Asn	Phe	Ser	Val	Asn	Leu
			180					185					190		
Tyr	Lys	Val	Thr	Gly	Gln	Phe	Pro	Trp	Ser	Ser	Leu	Arg	Glu	Thr	Asp
		195					200					205			
Arg	Gly	Met	Ser	Ala	Glu	Tyr	Ser	Phe	Pro	Ile	Trp	Lys	Thr	Ser	His
	210					215					220				
Thr	Val	Lys	Trp	Glu	Gly	Val	Trp	Arg	Glu	Leu	Gly	Cys	Leu	Ser	Arg
225					230					235					240
Thr	Ala	Ser	Phe	Ala	Val	Arg	Lys	Glu	Ser	Gly	His	Ser	Leu	Lys	Ser
				245					250					255	
Ser	Leu	Ser	His	Ala	Met	Val	Ile	Asp	Ser	Arg	Asn	Ser	Ser	Ile	Leu
		260						265					270		
Pro	Arg	Arg	Gly	Ala	Leu	Leu	Lys	Val	Asn	Gln	Glu	Leu	Ala	Gly	Tyr
		275					280					285			
Thr	Gly	Gly	Asp	Val	Ser	Phe	Ile	Lys	Glu	Asp	Phe	Glu	Leu	Gln	Leu
	290					295					300				
Asn	Lys	Gln	Leu	Ile	Phe	Asp	Ser	Val	Phe	Ser	Ala	Ser	Phe	Trp	Gly

305                      310                      315                      320  
 Gly Met Leu Val Pro Ile Gly Asp Lys Pro Ser Ser Ile Ala Asp Arg  
                                  325                      330                      335  
 Phe Tyr Leu Gly Gly Pro Thr Ser Val Arg Gly Phe Ser Met His Ser  
                                  340                      345                      350  
 Ile Gly Pro Gln Ser Glu Gly Asp Tyr Leu Gly Gly Glu Ala Tyr Trp  
                                  355                      360                      365  
 Ala Gly Gly Leu His Leu Tyr Thr Pro Leu Pro Phe Arg Pro Gly Gln  
                                  370                      375                      380  
 Gly Gly Phe Gly Glu Leu Phe Arg Thr His Phe Phe Leu Asn Ala Gly  
 385                                   390                      395                      400  
 Asn Leu Cys Asn Leu Asn Tyr Gly Glu Gly Pro Lys Ala His Ile Arg  
                                  405                      410                      415  
 Lys Leu Ala Glu Cys Ile Arg Trp Ser Tyr Gly Ala Gly Ile Val Leu  
                                  420                      425                      430  
 Arg Leu Gly Asn Ile Ala Arg Leu Glu Leu Asn Tyr Cys Val Pro Met  
                                  435                      440                      445  
 Gly Val Gln Thr Gly Asp Arg Ile Cys Asp Gly Val Gln Phe Gly Ala  
                                  450                      455                      460  
 Gly Ile Arg Phe Leu  
 465

&lt;210&gt; 4629

&lt;211&gt; 706

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4629

acgcgtgggc cggagaccca gcgtgggggg cgcagaggga gtccccctga gctgggcgcg  
 60  
 tcctcccgcg gcggtccgct ccttaagtcc cctgtgcgtc acctccttgc gtcggtcgcc  
 120  
 agcaccgcga ttgcttcggc cctagtgcag gggcagcacg tgcgcactga acctgggagt  
 180  
 cctgatctct agcctagctc aaagcctcca ccaggatcgg gtggcagctt ccatttgagg  
 240  
 ccattttctag gccagcggcc cagctgccag cttcacgtct cctgagttgg gggatctctg  
 300  
 gtccccctgc ctgctttgtg gccaaaggag cccaggatcc tggccagagg atgggcccgc  
 360  
 accccactcc tggttctggg tgcagttcgg cagatgggaa tccaggagct cagcttggac  
 420  
 acctcccca cctccggctc caagcccggg tccaagagga cccagggctg agcagaggct  
 480  
 tgtccccaat atcctcccct gccctcacc tttcctattt gagggaagac tgacaccctc  
 540  
 aaagccagc tggaggcacc tctgcccatt ctgcttagac ttagcgacc ctggtctctg  
 600  
 ctgaggaat ctgccctcag ctccccccat tctgggggtc caccacaac ccacacacac  
 660  
 ttccacggac caccctctct ctccctattg accatgccct cctctc  
 706

&lt;210&gt; 4630

<211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 4630

Met	Val	Asn	Arg	Glu	Arg	Glu	Gly	Gly	Pro	Trp	Lys	Cys	Val	Trp	Val
1				5					10					15	
Leu	Gly	Gly	Pro	Pro	Glu	Trp	Gly	Glu	Leu	Arg	Ala	Asp	Ser	Ser	Ser
			20					25					30		
Arg	Asp	Gln	Gly	Ala	Leu	Ser	Leu	Ser	Arg	Met	Gly	Arg	Asp	Ala	Ser
		35					40					45			
Ser	Trp	Ala	Leu	Arg	Val	Ser	Val	Phe	Pro	Gln	Ile	Gly	Lys	Met	Arg
	50					55					60				
Gly	Arg	Gly	Gly	Tyr	Trp	Gly	Gln	Ala	Ser	Ala	Gln	Pro	Trp	Val	Leu
65				70				75						80	
Leu	Glu	Pro	Gly	Leu	Glu	Pro	Glu	Val	Gly	Arg	Val	Ser	Lys	Leu	Ser
			85					90					95		
Ser	Trp	Ile	Pro	Ile	Cys	Arg	Thr	Ala	Pro	Arg	Thr	Arg	Ser	Gly	Val
			100					105					110		
Arg	Ala	His	Pro	Leu	Ala	Arg	Ile	Leu	Gly	Ser	Leu	Gly	His	Lys	Ala
		115					120					125			
Gly	Gln	Gly	Thr	Arg	Asp	Pro	Pro	Thr	Gln	Glu	Thr				
	130					135					140				

<210> 4631  
 <211> 2756  
 <212> DNA  
 <213> Homo sapiens

<400> 4631

cgccgcccg agcgcttttg gaaggcgac gggcggaaga tggcgccgga gcgacaggag  
 60  
 gcgctgaggg agttcgtggc ggtgacgggc gccgaggagg accgggccc cttctttctc  
 120  
 ggtcggccg gctgggactt gcagatcgcg ctagcgagct tttatgagga cggaggggat  
 180  
 gaagacattg tgaccatttc gcaggcaacc cccagttcag tgtccagagg cacagcccc  
 240  
 agtgataata gaggacatc cttcagagac ctcattcatg accaagatga agatgaggag  
 300  
 gaagaggaag gccagaggag caggttttat gctgggggct cagagagaag tggacagcag  
 360  
 attgttgcc ctcccaggaa gaaaagtccc aacgagctgg tggatgatct ctttaaaggt  
 420  
 gccaaagagc atggagctgt agctgtggag cgagtgacca agagccctgg agagaccagt  
 480  
 aaaccgagac catttgcagg aggtggctac cgccttgggg cagcaccaga ggaagagtct  
 540  
 gcctatgtgg caggagaaaa gaggcagcat tccagccaag atgttcatgt agtattgaaa  
 600  
 ctctggaaga gtggattcag cctggataat ggagaactca gaagctacca agaccatcc  
 660  
 aatgccagc ttctggagtc tatccgcaga ggggaggtgc cagcagagct tcggaggcta  
 720

gctcacggtg gacaggtgaa cttggatatg gaggaccatc gggacgagga ctttgtgaag  
780  
cccaaaggag ccttcaaagc cttcactggc gagggtcaga aactgggcag cactgcccc  
840  
caggtgttga gtaccagctc tccagcccaa caggcagaaa atgaagccaa agccagctct  
900  
tccatcttaa tcgacgaatc agagcctacc acaaacatcc aaattcggct tgcagacggc  
960  
gggaggctgg tgcagaaatt taaccacagc cacaggatca gcgacatccg actcttcac  
1020  
gtggatgccc ggccagccat ggctgccacc agctttatcc tcatgactac tttcccgaac  
1080  
aaagagctgg ctgatgagag ccagaccctg aaggaagcca acctgctcaa tgctgtcatc  
1140  
gtgcagcggg taacataacc gccagccag ctgcctggcc tccctcctgt gtttcccatg  
1200  
gccagtggcc atgccccatg gggatcgccc ctctgcccc cttgtgcata cccagcagtc  
1260  
cagtgaacg tctcctccat agctctgggt tcttagatct tgggtggacg tttgtttct  
1320  
ccttagttgc atttctggg tttttgtgat gatcaatgga ctttaatgaa aaaaaaata  
1380  
aaaacaacca aaaaaattga aggaatatca ccagcatgtt gtacggaaac tctcccactg  
1440  
aagcaggctt taattgcttt aaaattatat ttatcttggg gcctgtggga ggaaacttcc  
1500  
ttccatcttc tctgcataaa aacttgtggc acacaatgct tattcactag tgtgtccac  
1560  
ccgccagccc cacagatgac tggaggaagg aggggaaatg tgtagaaaga ggcttcgcca  
1620  
ccacttgctc ccacgagaat atgtcacttg cccagataaa actgggcggc agccagagtt  
1680  
ccctgaagtg ggaagtcaga gctccatgca cacagtgtct tcagaagggtg aaaataaata  
1740  
tttccctgtg ctctttttac tcaaccctg gggatatctaa tcttgccagg tcttgccag  
1800  
ttgagattct gttccacctg cctgcctggc cctttcctcc attaccatcc agactgctcg  
1860  
ctcctgggg attctcagg gctccattat ggcttgattt actccacgtg cagaagtctt  
1920  
gagtggacct aggaggtagg tgggatattt ttttctacta ggatacagct catgccaacc  
1980  
catcctaagt gagttcagaa tcagggtatc ttgccctata agataaacag tcaaaatgcc  
2040  
accgagctgt tcattagtga tgtgtggcaa atcaaatcaa ctgttgaaga aggggtgagt  
2100  
tttctgtgct acaagcacct gtcactgttg gtacttgag gaggcttctg ctgggtatgt  
2160  
tttggaagtg agtgtcacta cttggctttg cttagcaggt tctgcttcac acttgttctt  
2220  
tgacctgctg acttgtgact tgcagaaaca taggcagtag tcctagcctg gtaaagaccc  
2280  
tccaccaccc ctataagttt gattgctatg caggtttggg agaggaggcc tattgggctc  
2340

ttggatggaa ccctttcccg tattaacaa accagagaca gaatcagtc tgactcagga  
 2400  
 tctcttggtt tggaatcgta atgtgcctca atcctctttc caagcaggcc tcaccagtct  
 2460  
 cttctctttt cctgttcac ccctgcaatg agccaagaac caacactaca tccacctaga  
 2520  
 actgcagaag ggcttggtt ttcaaccaag acccatcctg agcaaggac ttggcttggt  
 2580  
 gcttttgatc ccaaagttcc cacaccggca gtggcctgct ggggcaatgg catctgtcac  
 2640  
 ggtgttttct ccagcagggtg gagattatgg aacctacata tgggtctgga aaaactgtac  
 2700  
 actgttgtca ccttgaccat taaaaaccag aatgaggaca aaaaaaaaaa aaaaaa  
 2756

<210> 4632

<211> 372

<212> PRT

<213> Homo sapiens

<400> 4632

Met	Ala	Ala	Glu	Arg	Gln	Glu	Ala	Leu	Arg	Glu	Phe	Val	Ala	Val	Thr
1				5					10					15	
Gly	Ala	Glu	Glu	Asp	Arg	Ala	Arg	Phe	Phe	Leu	Glu	Ser	Ala	Gly	Trp
			20					25					30		
Asp	Leu	Gln	Ile	Ala	Leu	Ala	Ser	Phe	Tyr	Glu	Asp	Gly	Gly	Asp	Glu
		35					40					45			
Asp	Ile	Val	Thr	Ile	Ser	Gln	Ala	Thr	Pro	Ser	Ser	Val	Ser	Arg	Gly
		50				55					60				
Thr	Ala	Pro	Ser	Asp	Asn	Arg	Val	Thr	Ser	Phe	Arg	Asp	Leu	Ile	His
65					70					75				80	
Asp	Gln	Asp	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Gly	Gln	Arg	Ser	Arg	Phe
			85						90					95	
Tyr	Ala	Gly	Gly	Ser	Glu	Arg	Ser	Gly	Gln	Gln	Ile	Val	Gly	Pro	Pro
			100					105					110		
Arg	Lys	Lys	Ser	Pro	Asn	Glu	Leu	Val	Asp	Asp	Leu	Phe	Lys	Gly	Ala
			115				120					125			
Lys	Glu	His	Gly	Ala	Val	Ala	Val	Glu	Arg	Val	Thr	Lys	Ser	Pro	Gly
		130				135					140				
Glu	Thr	Ser	Lys	Pro	Arg	Pro	Phe	Ala	Gly	Gly	Gly	Tyr	Arg	Leu	Gly
145					150				155					160	
Ala	Ala	Pro	Glu	Glu	Glu	Ser	Ala	Tyr	Val	Ala	Gly	Glu	Lys	Arg	Gln
			165						170					175	
His	Ser	Ser	Gln	Asp	Val	His	Val	Val	Leu	Lys	Leu	Trp	Lys	Ser	Gly
			180					185					190		
Phe	Ser	Leu	Asp	Asn	Gly	Glu	Leu	Arg	Ser	Tyr	Gln	Asp	Pro	Ser	Asn
		195					200					205			
Ala	Gln	Phe	Leu	Glu	Ser	Ile	Arg	Arg	Gly	Glu	Val	Pro	Ala	Glu	Leu
		210					215					220			
Arg	Arg	Leu	Ala	His	Gly	Gly	Gln	Val	Asn	Leu	Asp	Met	Glu	Asp	His
225					230					235				240	
Arg	Asp	Glu	Asp	Phe	Val	Lys	Pro	Lys	Gly	Ala	Phe	Lys	Ala	Phe	Thr
			245						250				255		
Gly	Glu	Gly	Gln	Lys	Leu	Gly	Ser	Thr	Ala	Pro	Gln	Val	Leu	Ser	Thr

	260		265		270
Ser Ser Pro	Ala Gln Gln Ala Glu Asn Glu Ala Lys Ala Ser Ser Ser				
	275		280		285
Ile Leu Ile	Asp Glu Ser Glu Pro Thr Thr Asn Ile Gln Ile Arg Leu				
	290		295		300
Ala Asp Gly	Gly Arg Leu Val Gln Lys Phe Asn His Ser His Arg Ile				
305		310		315	320
Ser Asp Ile	Arg Leu Phe Ile Val Asp Ala Arg Pro Ala Met Ala Ala				
	325		330		335
Thr Ser Phe	Ile Leu Met Thr Thr Phe Pro Asn Lys Glu Leu Ala Asp				
	340		345		350
Glu Ser Gln	Thr Leu Lys Glu Ala Asn Leu Leu Asn Ala Val Ile Val				
	355		360		365
Gln Arg Leu	Thr				
	370				

&lt;210&gt; 4633

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4633

aagcttgagg gactgaatgg tttcttgcaa agacttctgt accttcttgg gaatctgctc  
60  
ccaggagctg agcaagtgct ccagcagaag gctggactgt gacaggtgct tagggtacag  
120  
ctgcctccag acgctggcac tgaggggggc caccgtcagg cactcagtca ggctgctcag  
180  
gagctctttc ttcattctcag ggggacagct aggggtggct ctggacagga aagaagggaa  
240  
gtaggtatgc aggggtggaat ccggctttgc tccaaatgcc agcactttca gtcgggggta  
300  
gagctgacac agctgctcct gcaggctggg tgtcaggag ttgttcggca tataggcaaa  
360  
gtccagaagt gggaagaagt ccttggggcc aatcatgccg aagcccttgg taagggtggg  
420  
atgcatcagg agcagccgat ccaggatatgt gatggcaaag ggagacagag acttgatgcc  
480  
cagcacaggc agcatgatcc ccagccacac tttcagtcctc tcggtgaggt tggcaaaacc  
540  
tgcttgaccc agggcccaca tgatggtgag acactttgct ggtcggctct ggtgggacct  
600  
cagcagttcc aggaacttgc ctaggtttgc cgtggcaatc ttgggcttgt cttgcaggat  
660  
ggcctggata cagatgcggt aaccatgtag tgactccctt ggtgtcttat ccagctcttg  
720  
caacatggtg aacagacagt gggccctggg tcaagcaggt tttgccaacc tcaactgaggg  
780  
actgaaagtg tggctgggga tcatgctgcc tgtgctgggc atcaagtctc tgtctcctt  
840  
tgccatcacc cccttcacgc ggtcggagag agc  
873

&lt;210&gt; 4634

<211> 242  
 <212> PRT  
 <213> Homo sapiens

<400> 4634

```

Met Leu Gln Glu Leu Asp Lys Thr Pro Gly Glu Ser Leu His Gly Tyr
 1             5             10             15
Arg Ile Cys Ile Gln Ala Ile Leu Gln Asp Lys Pro Lys Ile Ala Thr
      20             25             30
Ala Asn Leu Gly Lys Phe Leu Glu Leu Leu Arg Ser His Gln Ser Arg
      35             40             45
Pro Ala Lys Cys Leu Thr Ile Met Trp Ala Leu Gly Gln Ala Gly Phe
      50             55             60
Ala Asn Leu Thr Glu Gly Leu Lys Val Trp Leu Gly Ile Met Leu Pro
65             70             75             80
Val Leu Gly Ile Lys Ser Leu Ser Pro Phe Ala Ile Thr Tyr Leu Asp
      85             90             95
Arg Leu Leu Leu Met His Pro Asn Leu Thr Lys Gly Phe Gly Met Ile
      100            105            110
Gly Pro Lys Asp Phe Phe Pro Leu Leu Asp Phe Ala Tyr Met Pro Asn
      115            120            125
Asn Ser Leu Thr Pro Ser Leu Gln Glu Gln Leu Cys Gln Leu Tyr Pro
      130            135            140
Arg Leu Lys Val Leu Ala Phe Gly Ala Lys Pro Asp Ser Thr Leu His
145            150            155            160
Thr Tyr Phe Pro Ser Phe Leu Ser Arg Ala Thr Pro Ser Cys Pro Pro
      165            170            175
Glu Met Lys Lys Glu Leu Leu Ser Ser Leu Thr Glu Cys Leu Thr Val
      180            185            190
Asp Pro Leu Ser Ala Ser Val Trp Arg Gln Leu Tyr Pro Lys His Leu
      195            200            205
Ser Gln Ser Ser Leu Leu Leu Glu His Leu Leu Ser Ser Trp Glu Gln
      210            215            220
Ile Pro Lys Lys Val Gln Lys Ser Leu Gln Glu Thr Ile Gln Ser Leu
225            230            235            240
Lys Leu

```

<210> 4635  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<400> 4635

```

acgcgtgaag ggtgatgtta ggaggaccag tgtgcagcta tgagctagga ggctgcccag
60
ttacaagagt cctgggtcag cccagaaagc ttttctccat tggttggggg aaggaggtga
120
agtggggccc gaggaggaag gccggtggtg tgtgggcaga gccagccagt ggtggccttc
180
ctcctcccga agatgagttt tgtagcccag gtgtttgcac actcacactt gctcactccc
240
tcacacacaa aacctcact ctttgctttt tctggggaga gggaggccac tggcagaagc
300

```



gcctaccctg gccacagtca gttcccatc tcattttcta agaattttat cacaaaaacag  
 360  
 tttgtcttga ggctgagatg gggg  
 384

<210> 4636  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 4636  
 Met Leu Gly Gly Pro Val Cys Ser Tyr Glu Leu Gly Gly Cys Pro Val  
 1 5 10 15  
 Thr Arg Val Leu Gly Gln Pro Arg Lys Leu Phe Ser Ile Gly Trp Gly  
 20 25 30  
 Lys Glu Val Lys Trp Gly Pro Arg Arg Lys Ala Gly Gly Val Trp Ala  
 35 40 45  
 Glu Pro Ala Ser Gly Gly Leu Pro Pro Pro Glu Asp Glu Phe Cys Ser  
 50 55 60  
 Pro Gly Val Cys Thr Leu Thr Leu Ala His Ser Leu Thr His Lys Thr  
 65 70 75 80  
 Leu Thr Leu Cys Phe Phe Trp Gly Glu Gly Gly His Trp Gln Lys Arg  
 85 90 95  
 Leu Pro Trp Pro Gln Ser Val Pro Ile Leu Ile Phe  
 100 105

<210> 4637  
 <211> 2162  
 <212> DNA  
 <213> Homo sapiens

<400> 4637  
 nnggcgcggg cgggctgctg aggtggctgt cgccggctcc gagctgcggc ttcccggggc  
 60  
 gagccccga tggaggccga ggccgcggac gctcccccg gcgggggtga gtcggcgctc  
 120  
 agctgttct ctttcaacca ggactgcaca tccctagcaa ttggaactaa agccgggtat  
 180  
 aagctgtttt ctctgagttc tgtggagcag ctggatcaag tccacggaag caatgaaatc  
 240  
 ccggacgtct acatcgtgga gcgcctcttc tccagcagcc tgggtggtggt agtcagtcac  
 300  
 acaaaaccac ggcagatgaa cgtgtatcac ttcaagaaag gcacagagat ctgtaattac  
 360  
 agtactcca gcaacatctt gtccataagg ctgaaccggc aaaggctgct ggtttgccta  
 420  
 gaagagtcca tttatattca caacattaaa gacatgaagc tgttgaagac cctcctggat  
 480  
 attcctgcaa acccaacagg tctatgtgct ctctctatca accattccaa ttcttacctg  
 540  
 gcctatcctg gaagcctgac ttcaggggag attgtgcttt atgatggaaa ctccctgaaa  
 600  
 acagtctgca ctattgctgc ccatgaggga aactagctg ccatcacctt caatgcctca  
 660

ggctccaaac tagcaagtgc gtctgaaaaa ggcacagtca tccgggtggt ctctgtccct  
720  
gatgggcaaa agctctatga gttccggaga gggatgaaaa ggtatgtgac aatcagctct  
780  
ctagtgttca gtatggattc acaattcctc tgcgcctcca gtaacaccga gacggtacac  
840  
atcttcaagc tggaacaggt caccaacagt cgaccagaag agccttcgac ctgga-tggc  
900  
tacatgggaa agatgtttat ggctgctacc aactacctcc ctaccaggt gtcagacatg  
960  
atgcatcagg acagggcttt tgccactgca cgcttgaact tctccggaca gaggaacatc  
1020  
tgtaccctct caacgatcca gaagttgcca cggctgctag ttgcgtcatc cagtggacac  
1080  
ctttatatgt acaatttggg tcctcaggat ggaggagagt gtgtcttaac caaaaccac  
1140  
agcttgcttg gctcaggaac aacagaagag aataaagaaa atgacctcag accttcctta  
1200  
cctcagtctt atgcagcgac cgtagccaga ccaagtgcac cttcagcctc cacggtgcc  
1260  
ggttattctg aggacggcgg ggcgctgcga ggagaagtta ttctgaaca tgagtttgcg  
1320  
acgggaccag tgtgtcttga tgatgagaat gagtttcctc ctataatctt gtgccgtgga  
1380  
aatcagaagg gcaaaacgaa gcagtcatga tgagaagcac acctcagaaa tcaggacatc  
1440  
ccccctatca ggtgggttttg gagaaaacaa ggaaggcgga agaattggagt gcaatttgt  
1500  
gagcagaaag gggggcagga atcccgggtg ctccactgct taaaccacag gacctggta  
1560  
actcctcacc aagcttccca cgacctggt tgccaatggg cgcgggagac attgtatata  
1620  
catcatgcta tttaaaatac gttcaaacta tagtgtaaata gctaattaac catatttgga  
1680  
tataaccgga attttatatt aaaaggggccc tcctttttta atatatgccg tgtaaaaaat  
1740  
gtacttatag gaacatctct ttgaattgta tttcttgat attacatact tagagagaga  
1800  
ctcttttagc caggcaaagt cttttttggc tgtggctgga ataaatcatt tattacttgg  
1860  
gagtccatt ttggacacta ataataaaat catggcaatg catttttgag gtttttatat  
1920  
atttttttgt ttccttggtg ttatagggga caggaggaac tctttaactt cttttaaatg  
1980  
cagtcatttc acccttaaaa ggagaggaag gggattgggc cacagactta tccatggact  
2040  
cgtctgctct gagatctgga aaacgaccta actttggtct aaatctgtgc tcctcaaggc  
2100  
attgtttgat agaaatgtag gatttcagga tctactcgag ccctactgag acggaatccg  
2160  
ga  
2162

&lt;210&gt; 4638

&lt;211&gt; 446

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4638

```

Met Glu Ala Glu Ala Ala Asp Ala Pro Pro Gly Gly Val Glu Ser Ala
 1          5          10          15
Leu Ser Cys Phe Ser Phe Asn Gln Asp Cys Thr Ser Leu Ala Ile Gly
      20          25          30
Thr Lys Ala Gly Tyr Lys Leu Phe Ser Leu Ser Ser Val Glu Gln Leu
      35          40          45
Asp Gln Val His Gly Ser Asn Glu Ile Pro Asp Val Tyr Ile Val Glu
      50          55          60
Arg Leu Phe Ser Ser Ser Leu Val Val Val Val Ser His Thr Lys Pro
      65          70          75          80
Arg Gln Met Asn Val Tyr His Phe Lys Lys Gly Thr Glu Ile Cys Asn
      85          90          95
Tyr Ser Tyr Ser Ser Asn Ile Leu Ser Ile Arg Leu Asn Arg Gln Arg
      100          105          110
Leu Leu Val Cys Leu Glu Glu Ser Ile Tyr Ile His Asn Ile Lys Asp
      115          120          125
Met Lys Leu Leu Lys Thr Leu Leu Asp Ile Pro Ala Asn Pro Thr Gly
      130          135          140
Leu Cys Ala Leu Ser Ile Asn His Ser Asn Ser Tyr Leu Ala Tyr Pro
      145          150          155          160
Gly Ser Leu Thr Ser Gly Glu Ile Val Leu Tyr Asp Gly Asn Ser Leu
      165          170          175
Lys Thr Val Cys Thr Ile Ala Ala His Glu Gly Thr Leu Ala Ala Ile
      180          185          190
Thr Phe Asn Ala Ser Gly Ser Lys Leu Ala Ser Ala Ser Glu Lys Gly
      195          200          205
Thr Val Ile Arg Val Phe Ser Val Pro Asp Gly Gln Lys Leu Tyr Glu
      210          215          220
Phe Arg Arg Gly Met Lys Arg Tyr Val Thr Ile Ser Ser Leu Val Phe
      225          230          235          240
Ser Met Asp Ser Gln Phe Leu Cys Ala Ser Ser Asn Thr Glu Thr Val
      245          250          255
His Ile Phe Lys Leu Glu Gln Val Thr Asn Ser Arg Pro Glu Glu Pro
      260          265          270
Ser Thr Trp Ser Gly Tyr Met Gly Lys Met Phe Met Ala Ala Thr Asn
      275          280          285
Tyr Leu Pro Thr Gln Val Ser Asp Met Met His Gln Asp Arg Ala Phe
      290          295          300
Ala Thr Ala Arg Leu Asn Phe Ser Gly Gln Arg Asn Ile Cys Thr Leu
      305          310          315          320
Ser Thr Ile Gln Lys Leu Pro Arg Leu Leu Val Ala Ser Ser Ser Gly
      325          330          335
His Leu Tyr Met Tyr Asn Leu Asp Pro Gln Asp Gly Gly Glu Cys Val
      340          345          350
Leu Ile Lys Thr His Ser Leu Leu Gly Ser Gly Thr Thr Glu Glu Asn
      355          360          365
Lys Glu Asn Asp Leu Arg Pro Ser Leu Pro Gln Ser Tyr Ala Ala Thr
      370          375          380
Val Ala Arg Pro Ser Ala Ser Ser Ala Ser Thr Val Pro Gly Tyr Ser

```

385		390		395		400
Glu Asp Gly Gly Ala Leu Arg Gly Glu Val Ile Pro Glu His Glu Phe						
	405		410		415	
Ala Thr Gly Pro Val Cys Leu Asp Asp Glu Asn Glu Phe Pro Pro Ile						
	420		425		430	
Ile Leu Cys Arg Gly Asn Gln Lys Gly Lys Thr Lys Gln Ser						
	435		440		445	

<210> 4639  
 <211> 1007  
 <212> DNA  
 <213> Homo sapiens

<400> 4639  
 nntttttttt aaaacaaaac attttattta atgcagaaat tctaaggtag aaaaacattt  
 60  
 tgtaaagtgc agctgtgac tactttcacc tagttacaga gttatgtaca aatcaagtca  
 120  
 ttaacatttt caatgtcaaa aatacagcac gctgttaaga gttctgtcag tgctcattat  
 180  
 cccactagat cccacaaagg gcaaactcaa agatgaaaca aaggcaacgc catcaataac  
 240  
 caccatattc cacaggcttt cccccctagg acgtactaac agggagtttc cacagggaaa  
 300  
 aattctcttt taaaaaatta acagtaaaaa taggagttac ttactatcta gatgaacaca  
 360  
 attgggtttt acaaaagctt ttgctgctgt ctggactcac catgcttttt tcttgagaga  
 420  
 aacataccaa actttttgtt gttgtgtgtg agacggagtt tcgctcttgt tgcccaggct  
 480  
 agagtgaat ggcgtgatct cagctcactg caacctccgc ctcccaggct caagcgattc  
 540  
 tcccacctca gcctcccaag tagctaggac tacagggtgtg tgccaccaca cccagctaat  
 600  
 tttnnctgta gagacggttn ttcaccatgt tgcccagact ggtctcaa atctgggctc  
 660  
 aagcaatcta acccccttgg cctcccaaag tgctgggata acagggtgtga gccaccatac  
 720  
 ccagctacaa agactctttt cccacataag gtcacattca cagggtccaa gtagacatct  
 780  
 cttttcaggg gaccacagtt caaccacta caactaagca gtgccacact tttcttcagg  
 840  
 tgggtgtggc ttattggatg tttcattttt aggtgacctt ggccccttgc tgaagaaggg  
 900  
 atagacccat gccctctgca gaagggtga ggtttaggca aggccaattc cttccccctgt  
 960  
 ctcatggcat taacgttcct atgcccggtg ggtgtcattc tgctagc  
 1007

<210> 4640  
 <211> 71  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4640

```

Met Asn Thr Ile Gly Phe His Lys Ser Phe Cys Cys Cys Leu Asp Ser
 1           5           10           15
Pro Cys Phe Phe Leu Glu Arg Asn Ile Pro Asn Phe Leu Leu Leu
      20           25           30
Leu Arg Arg Ser Phe Ala Leu Val Ala Gln Ala Arg Val Gln Trp Arg
      35           40           45
Asp Leu Ser Ser Leu Gln Pro Pro Pro Arg Leu Lys Arg Phe Ser
      50           55           60
His Leu Ser Leu Pro Ser Ser
65           70

```

&lt;210&gt; 4641

&lt;211&gt; 1873

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4641

```

nnngggatttc gcgggaaatc ccggaagtga cagctttggg ggtttgctgc tggctctgac
60
tcccgctcctg cgatgggttg cgacggggga acaatcccca agaggcatga actgggtgaag
120
gggccgaaga aggttgagaa ggtcgacaaa gatgctgaat tagtggccca atggaactat
180
tgtactctaa gtcaggaaat attaagacga ccaatagttg cctgtgaact tggcagactt
240
tataacaaag atgccgtcat tgaatttctc ttggacaaat ctgcagaaaa ggctcttggg
300
aaggcagcat ctcacattaa aagcattaa aatgtgacag agctgaagct ttctgataat
360
cctgcctggg aaggggataa aggaaacact aaaggtgaca agcacgatga cctccagcgg
420
gcgcgtttca tctgccccgt tgtgggcctg gagatgaacg gccgacacag gttctgcttc
480
cttcggtgct gcggtgtgt gttttctgag cgagccttga aagagataaa agcggaaagt
540
tgccacacgt gtggggctgc cttccaggag gatgatgtca tcatgctcaa tggcaccaag
600
gaggatgtgg acgtgctgaa gacaaggatg gaggagagaa ggctgagagc gaagctggaa
660
aagaaaacaa agaaacccaa ggcagcagag tctgtttcaa aaccagatgt cagtgaagaa
720
gccccagggc catcaaaagt taagacaggg aagcctgaag aagccagcct tgattctaga
780
gagaagaaaa ccaacttggc tcccaaaagc acagcaatga atgagagctc ttctggaaaa
840
gctgggaagc ctccgtgtgg agccacaaag aggtccatcg ctgacagtga agaatcggag
900
gcctacaagt ccctctttac cactcacagc tccgccaagc gctccaagga ggagtctgcc
960
cactgggtca cccacacgtc ctactgcttc tgaagcccgc actgccaccg ctctgcccc
1020
agaaggttgt ttagtttcca cgtaggcagg tcgctttgtg cctctgagtg cgctgctgtg
1080

```

tgttctctct atagttctgt gtcataaagc tgccttgccc agccttcâag ctggtgtggc  
 1140  
 cactcttgat gtgaggcgtg tcggttccag gggggacatg ggaggggctg cacagtggcc  
 1200  
 cgaggtcatg cttgcttcca cctgcaggtg catttggtcc tttccatggc caggaagccc  
 1260  
 tgtgggctgc actttttatg cttgcagtaa caagagactc cagagtcctc accggtgcag  
 1320  
 agttggcaca tattaattaa ctaaaattct aatgatcttg ctaccagcaa taaatcaagt  
 1380  
 aggccaagtg aaactgggct ttaaaaagga tggatttcaa atacactgtg cccactagaa  
 1440  
 gcttcgaagg gcctcgtccc tctgctacag ccctgggagg agccaggatc cttgttggtc  
 1500  
 tagctaaata ctgttagggg agtgtgcccc atctcatcat ttcgaagata gcagagtcac  
 1560  
 agttgggcac ccggtgattg ggttcaaaaa taaagctggt ctgcctcttc aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa tttttttttt  
 1680  
 ggcccccccc aaaaaaaccc cccaccccccc ccgcggcgagg gtgttttttt ccccgcgggc  
 1740  
 gacccccctc cccccccggg ggggcgcggg ttggggggcc cccccccggc cccccgtgt  
 1800  
 ggggggggtg ggggttgttt tttttttttt ttgaagtgtt tttcccaaaa aaaacaaaaa  
 1860  
 aaaaaagaga ggg  
 1873

&lt;210&gt; 4642

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4642

Met	Gly	Cys	Asp	Gly	Gly	Thr	Ile	Pro	Lys	Arg	His	Glu	Leu	Val	Lys
1				5					10					15	
Gly	Pro	Lys	Lys	Val	Glu	Lys	Val	Asp	Lys	Asp	Ala	Glu	Leu	Val	Ala
			20					25					30		
Gln	Trp	Asn	Tyr	Cys	Thr	Leu	Ser	Gln	Glu	Ile	Leu	Arg	Arg	Pro	Ile
		35					40					45			
Val	Ala	Cys	Glu	Leu	Gly	Arg	Leu	Tyr	Asn	Lys	Asp	Ala	Val	Ile	Glu
		50				55					60				
Phe	Leu	Leu	Asp	Lys	Ser	Ala	Glu	Lys	Ala	Leu	Gly	Lys	Ala	Ala	Ser
65					70				75						80
His	Ile	Lys	Ser	Ile	Lys	Asn	Val	Thr	Glu	Leu	Lys	Leu	Ser	Asp	Asn
			85					90						95	
Pro	Ala	Trp	Glu	Gly	Asp	Lys	Gly	Asn	Thr	Lys	Gly	Asp	Lys	His	Asp
		100						105					110		
Asp	Leu	Gln	Arg	Ala	Arg	Phe	Ile	Cys	Pro	Val	Val	Gly	Leu	Glu	Met
		115					120					125			
Asn	Gly	Arg	His	Arg	Phe	Cys	Phe	Leu	Arg	Cys	Cys	Gly	Cys	Val	Phe
	130					135					140				
Ser	Glu	Arg	Ala	Leu	Lys	Glu	Ile	Lys	Ala	Glu	Val	Cys	His	Thr	Cys

145                      150                      155                      160  
 Gly Ala Ala Phe Gln Glu Asp Asp Val Ile Met Leu Asn Gly Thr Lys  
                                  165                      170                      175  
 Glu Asp Val Asp Val Leu Lys Thr Arg Met Glu Glu Arg Arg Leu Arg  
                                  180                      185                      190  
 Ala Lys Leu Glu Lys Lys Thr Lys Lys Pro Lys Ala Ala Glu Ser Val  
                                  195                      200                      205  
 Ser Lys Pro Asp Val Ser Glu Glu Ala Pro Gly Pro Ser Lys Val Lys  
                                  210                      215                      220  
 Thr Gly Lys Pro Glu Glu Ala Ser Leu Asp Ser Arg Glu Lys Lys Thr  
 225                                   230                                   235                                   240  
 Asn Leu Ala Pro Lys Ser Thr Ala Met Asn Glu Ser Ser Ser Gly Lys  
                                  245                                   250                                   255  
 Ala Gly Lys Pro Pro Cys Gly Ala Thr Lys Arg Ser Ile Ala Asp Ser  
                                  260                                   265                                   270  
 Glu Glu Ser Glu Ala Tyr Lys Ser Leu Phe Thr Thr His Ser Ser Ala  
                                  275                                   280                                   285  
 Lys Arg Ser Lys Glu Glu Ser Ala His Trp Val Thr His Thr Ser Tyr  
                                  290                                   295                                   300  
 Cys Phe  
 305

&lt;210&gt; 4643

&lt;211&gt; 1125

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4643

nntgaattcc gctggaagtc cagcctctat tgaggatttg atgcgacggc ctcacggggc  
 60  
 tttggagggtg aaagaggccc agagtagaga gagagagaga ccgacgtaca cgggatggct  
 120  
 acgggaacgc gctatgccgg gaagggtggg gtcgtgaccg ggggcgggcg cggcatcgga  
 180  
 gctgggatcg tgcgcgcctt cgtggacagc ggggcccag tggttatctg cgacaaggat  
 240  
 gagtctgggg gccgggccc ggagcaggag ctccctggag ctgtctttat cctctgtgat  
 300  
 gtgactcagg aagatgatat gaagaccctg gtttctgaga ccatccgccg atttggccgc  
 360  
 ctggattgtg ttgtcaacaa cgctggccac caccacccc cacagaggcc tgaggagacc  
 420  
 tctgcccagg gattccgcca gctgctggag ctgaacctac tggggacgta caccttgacc  
 480  
 aagctcgccc tcccctacct gcggaagagt caagggaatg tcatcaacat ctccagcctg  
 540  
 gtgggggcaa tcggccaggc ccaggcagtt ccctatgtgg ccaccaaggg ggcagtaaca  
 600  
 gccatgacca aagctttggc cctggatgaa agtccatatg gtgtccgagt caactgtatc  
 660  
 tcccaggaa acatctggac cccgctgtgg gaggagctgg cagccttaat gccagaccct  
 720  
 agggccacaa tccgagaggg catgctggcc cagccactgg gccgcatggg ccagcccgtc  
 780

gaggtcgggg ctgctggcagt gttcttggcc tccgaagcca acttctgcac gggcattgaa  
 840  
 ctgctctgga cgggggggtgc agagctgggg tacgggtgca aggccagtcg gagcaccccc  
 900  
 gtggacgccc ccgatatccc ttcctgattt ctctcatttc tacttggggc ccccttccta  
 960  
 ggactctccc accccaaact ccaacctgta tcagatgcag cccccaagcc cttagactct  
 1020  
 aagcccagtt agcaagggtgc cgggtcaccc tgcagggtcc cataaaaaacg atttgcagcc  
 1080  
 agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 1125

<210> 4644

<211> 270

<212> PRT

<213> Homo sapiens

<400> 4644

Met	Ala	Thr	Gly	Thr	Arg	Tyr	Ala	Gly	Lys	Val	Val	Val	Val	Thr	Gly
1				5					10					15	
Gly	Gly	Arg	Gly	Ile	Gly	Ala	Gly	Ile	Val	Arg	Ala	Phe	Val	Asp	Ser
		20					25						30		
Gly	Ala	Arg	Val	Val	Ile	Cys	Asp	Lys	Asp	Glu	Ser	Gly	Gly	Arg	Ala
		35				40						45			
Leu	Glu	Gln	Glu	Leu	Pro	Gly	Ala	Val	Phe	Ile	Leu	Cys	Asp	Val	Thr
	50				55					60					
Gln	Glu	Asp	Asp	Met	Lys	Thr	Leu	Val	Ser	Glu	Thr	Ile	Arg	Arg	Phe
65					70					75				80	
Gly	Arg	Leu	Asp	Cys	Val	Val	Asn	Asn	Ala	Gly	His	His	Pro	Pro	Pro
			85					90					95		
Gln	Arg	Pro	Glu	Glu	Thr	Ser	Ala	Gln	Gly	Phe	Arg	Gln	Leu	Leu	Glu
		100						105				110			
Leu	Asn	Leu	Leu	Gly	Thr	Tyr	Thr	Leu	Thr	Lys	Leu	Ala	Leu	Pro	Tyr
	115						120					125			
Leu	Arg	Lys	Ser	Gln	Gly	Asn	Val	Ile	Asn	Ile	Ser	Ser	Leu	Val	Gly
	130					135					140				
Ala	Ile	Gly	Gln	Ala	Gln	Ala	Val	Pro	Tyr	Val	Ala	Thr	Lys	Gly	Ala
145					150					155				160	
Val	Thr	Ala	Met	Thr	Lys	Ala	Leu	Ala	Leu	Asp	Glu	Ser	Pro	Tyr	Gly
			165					170					175		
Val	Arg	Val	Asn	Cys	Ile	Ser	Pro	Gly	Asn	Ile	Trp	Thr	Pro	Leu	Trp
	180							185					190		
Glu	Glu	Leu	Ala	Ala	Leu	Met	Pro	Asp	Pro	Arg	Ala	Thr	Ile	Arg	Glu
	195					200						205			
Gly	Met	Leu	Ala	Gln	Pro	Leu	Gly	Arg	Met	Gly	Gln	Pro	Ala	Glu	Val
	210					215					220				
Gly	Ala	Ala	Ala	Val	Phe	Leu	Ala	Ser	Glu	Ala	Asn	Phe	Cys	Thr	Gly
225					230					235				240	
Ile	Glu	Leu	Leu	Val	Thr	Gly	Gly	Ala	Glu	Leu	Gly	Tyr	Gly	Cys	Lys
			245					250					255		
Ala	Ser	Arg	Ser	Thr	Pro	Val	Asp	Ala	Pro	Asp	Ile	Pro	Ser		
		260						265					270		



<210> 4645  
<211> 1725  
<212> DNA  
<213> Homo sapiens

<400> 4645  
nggctctcgc ctaccggggg cttctctcac cgggactcgg gactcccggg aagtggaccg  
60  
gcagaagagg gggctagcta gctgtctctg cggaccaggg agacccccgc gcccccccg  
120  
tgtgaggcgg cctcacaggg ccgggtgggc tggcgagccg acgcggcggc ggaggaggct  
180  
gtgaggagtg tgtggaacag gaccggggac agaggaacca tggctccgca gaacctgagc  
240  
accttttgcc tggtgctgct atacctcatc ggggcggtga tggccggacg agatttctat  
300  
aagatcttgg gggcgcctcg aagtgcctct ataaaggata ttaaaaaggc ctataggaaa  
360  
ctagccctgc agcttcatcc cgaccggaac cctgatgatc cacaagccca ggagaaattc  
420  
caggatctgg gtgctgctta tgaggttctg tcagatagtg agaaacggaa acagtacgat  
480  
acttatggtg aagaaggatt aaaagatggt catcagagct cccatggaga cattttttca  
540  
cacttctttg gggatttttg tttcatgttt ggaggaaccc ctcgtcagca agacagaaat  
600  
attccaagag gaagtgatat tattgtagat ctagaagtca ctttgaaga agtatatgca  
660  
ggaaattttg tggaagtagt tagaaacaaa cctgtggcaa ggcaggctcc tggcaaacgg  
720  
aagtgcatt gtcggcaaga gatgcggacc acccagctgg gccctgggcg cttccaaatg  
780  
accaggagg tggtctgcga cgaatgcctt aatgtcaaac tagtgaatga agaacgaacg  
840  
ctggaagtag aaatagagcc tggggtgaga gacggcatgg agtaccctt tattggagaa  
900  
ggtgagctc acgtggatgg ggagcctgga gatttacggt tccgaatcaa agttgtcaag  
960  
cacccaatat ttgaaaggag aggagatgat ttgtacacaa atgtgacaat ctcattagtt  
1020  
gagtcactgg ttggctttga gatggatatt actcacttg atggtcacaa ggtacatatt  
1080  
tcccgggata agatcaccag gccaggagcg aagctatgga agaaagggga agggctcccc  
1140  
aactttgaca acaacaatat caagggtctt ttgataatca cttttgatgt ggattttcca  
1200  
aaagaacagt taacagagga agcgagagaa ggtatcaaac agctactgaa acaagggtca  
1260  
gtgcagaagg tatacaatgg actgcaagga tattgagagt gaataaaatt ggactttggt  
1320  
taaaataagt gaataagcga tttttattat ctgcaagggt tttttgtgtg tgtttttgtt  
1380  
tttattttca atatgcaagt taggcttaat ttttttatct aatgatcatc atgaaatgaa  
1440

taagagggct taagaatttg tccatttgca ttcggaaaag aatgaccagc aaaagggttta  
 1500  
 ctaatacctc tccctttggg gatttaatgt ctggtgctgc cgcctgagtt tcaagaatta  
 1560  
 aagctgcaag aggactccag gagcaaaaga aacacaatat agaggggttg agttggttagc  
 1620  
 aatttcattc aaaatgccaa ctggagaagt ctgtttttaa atacattttg ttgttatttt  
 1680  
 taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 1725

<210> 4646

<211> 358

<212> PRT

<213> Homo sapiens

<400> 4646

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr	Leu
1				5					10					15	
Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu	Gly	Val
			20					25					30		
Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr	Arg	Lys	Leu
		35				40						45			
Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp	Pro	Gln	Ala	Gln
	50				55					60					
Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu	Val	Leu	Ser	Asp	Ser
65				70					75					80	
Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly	Glu	Glu	Gly	Leu	Lys	Asp
			85					90					95		
Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile	Phe	Ser	His	Phe	Phe	Gly	Asp
	100					105						110			
Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr	Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile
	115					120				125					
Pro	Arg	Gly	Ser	Asp	Ile	Ile	Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu
	130				135					140					
Val	Tyr	Ala	Gly	Asn	Phe	Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala
145				150					155					160	
Arg	Gln	Ala	Pro	Gly	Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg
			165					170					175		
Thr	Thr	Gln	Leu	Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val
		180					185					190			
Cys	Asp	Glu	Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu
	195				200						205				
Glu	Val	Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe
	210				215				220						
Ile	Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
225				230					235					240	
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly	Asp
			245					250					255		
Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu	Val	Gly
	260					265						270			
Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val	His	Ile	Ser
	275					280						285			
Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp	Lys	Lys	Gly	Glu

290                                      295                                      300  
 Gly Leu Pro Asn Phe Asp Asn Asn Asn Ile Lys Gly Ser Leu Ile Ile  
 305                                      310                                      315                                      320  
 Thr Phe Asp Val Asp Phe Pro Lys Glu Gln Leu Thr Glu Glu Ala Arg  
                                     325                                      330                                      335  
 Glu Gly Ile Lys Gln Leu Leu Lys Gln Gly Ser Val Gln Lys Val Tyr  
                                     340                                      345                                      350  
 Asn Gly Leu Gln Gly Tyr  
                                     355

&lt;210&gt; 4647

&lt;211&gt; 791

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4647

agatctgcac gacttgtaaa ctgaccatcc gaaatattat acaccaagct ggaggctagg  
 60  
 atttttaaaag atgacaaacc acttggtcca ccaaaaagag atcgggtggc agagctgcct  
 120  
 gatccccctg gaggaggcac cagcatcacc aagtaggtgc cacaggtata tatgggtgtc  
 180  
 ttccgcagca ttttttagagg cagccacag ctagtatttg ctgcttgatc ctctttcagt  
 240  
 gtgttggaaga tgggtgaacc agtcaggga gcaagcggtg ctgacgggga ggctctatac  
 300  
 cgagaaagtc tacttagaag catctcatta atgcttttgg cagattcgcc ctcttttctc  
 360  
 attagaattg tacgttcctg aagtgggttg gctacaaata caccattttc aaccacaagt  
 420  
 tcaaaaatgt ccatgaagac agaatgtccc ttcggtgttt tctcattcag gctggcagga  
 480  
 gaccagatcc aatagaagta agtgccatct gaagacaggt gcacagtgtc catggtgctg  
 540  
 ccaatgggga ggtgattggc tggcattggc accacctggc acacctgaag ggtgttctgg  
 600  
 tcaatgacct ggaaaaggga gtgaggttta ttatcgaaag agacaggccg gtggagaaga  
 660  
 ctgccgctgc caaaagccac ccctcctggt tccaactcct cgttcggca gtacacaaaa  
 720  
 cctctgagag taccatgtaa tccagatccc aatttgctta ctctcttcc aactgagtta  
 780  
 gtagtataca g  
 791

&lt;210&gt; 4648

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4648

Met Pro Ala Asn His Leu Pro Ile Gly Ser Thr Met Ser Thr Val His  
 1                                      5                                      10                                      15  
 Leu Ser Ser Asp Gly Thr Tyr Phe Tyr Trp Ile Trp Ser Pro Ala Ser

20 25 30  
 Leu Asn Glu Lys Thr Pro Lys Gly His Ser Val Phe Met Asp Ile Phe  
 35 40 45  
 Glu Leu Val Val Glu Asn Gly Val Phe Val Ala Asn Pro Leu Gln Glu  
 50 55 60  
 Arg Thr Ile Leu Met Arg Lys Glu Gly Glu Ser Ala Lys Ser Ile Asn  
 65 70 75 80  
 Glu Met Leu Leu Ser Arg Leu Ser Arg Tyr Arg Ala Ser Pro Ser Ala  
 85 90 95  
 Thr Leu Ala Ala Leu Thr Gly Ser Thr Ile Ser Asn Thr Leu Lys Glu  
 100 105 110  
 Asp Gln Ala Ala Asn Thr Ser Cys Gly Leu Pro Leu Lys Met Leu Arg  
 115 120 125  
 Lys Thr Pro Ile Tyr Thr Cys Gly Thr Tyr Leu Val Met Leu Val Pro  
 130 135 140  
 Pro Pro Gly Gly Ser Gly Ser Ser Ala Thr Arg Ser Leu Phe Gly Gly  
 145 150 155 160  
 Thr Ser Gly Leu Ser Ser Leu Lys Ile Leu Ala Ser Ser Leu Val Tyr  
 165 170 175  
 Asn Ile Ser Asp Gly Gln Phe Thr Ser Arg Ala Asp  
 180 185

&lt;210&gt; 4649

&lt;211&gt; 3276

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4649

nntgatcaca taaaaatccg tgccctggcag attgctgggc ttcccgttga ctccttctcc  
 60  
 atcgacaatg gcatcattgt atccaattcc agacgctggg ccttaatgat tgaccctcac  
 120  
 gggcaggcca ataaatggat taagaacatg gagaaggcga ataaactggc tgtcatcaag  
 180  
 ttctctgata gcaactacat gaggatgctg gaaaacgcgc tgcagttagg caccctgtc  
 240  
 ttgattgaaa acattggaga agagctggat gcttctatcg aacctatctt gctcaaggca  
 300  
 acattcaaac agcaaggagt tgagtacatg aggctgggtg aaaacatcat tgaatattcc  
 360  
 agggatttta agttatacat cacaacccgt ttgaggaatc cacattacct ccagaagtt  
 420  
 gccgtgaagg tctgtctcct caacttcatg atcacccctc tgggtctcca agatcaacte  
 480  
 cttggcatcg tggctgcgaa ggagaagcca gagctggaag agaaaaagaa ccagttgatt  
 540  
 gtggaaagtg ccaagaacaa gaagcatctc aaggaaattg aagataagat cttggaggtt  
 600  
 ctctccatgt ccaagggtaa catcctggag gatgaaaccg ccatcaaagt tctgtcctcc  
 660  
 tccaaagtgc tatctgaaga gatctcagag aaacagaaag ttgcttccat gacagaaacg  
 720  
 cagattgacg agactcggat gggctacaag ccagtggctg tgcattctgc caccatcttc  
 780

ttttgtatct cggacctggc caacatcgag ccgatgtacc agtactccct gacttggttc  
840  
ataaatctct acatgcattc cttgaccac agcacgaaga gcgaggaact gaatctgcgc  
900  
atcaagtaca tcattgacca tttcaccttg agcatctaca acaacgtgtg ccgttctctg  
960  
tttgagaagg acaagctact cttctctctc ctctgacca tcggcatcat gaaacagaag  
1020  
aaggaaatta cggaggaggt gtggtacttc cttctcactg gaggcacgc actggataac  
1080  
ccctaccca atccagctcc ccaatggctg tctgagaagg catgggcaga gattgtccgt  
1140  
gcatctgcct tacccaaact gcatggcctg atggagcatt tggaacagaa cctgggtgaa  
1200  
tggaagctga tctatgactc ggcctggccc catgaggagc aactccctgg gtcttggaag  
1260  
ttctctcaag gattggagaa gatggtgatc cttcgatgtt tgccggcctga caaaatggtg  
1320  
ccagcggctc gggagttcat tgctgaacat atgggaaagc tgtatatcga agcccctacg  
1380  
ttcgatctcc agggatccta caatgattcc agctgctgtg cgcctttgat ttttgtgttg  
1440  
tctccaagtg cagacccaat ggcaggcctg ctgaagtttg ctgatgatct tggatatggga  
1500  
ggtaccagaa cacagaccat ctcccttggc caaggccaag gccctattgc tgccaaaatg  
1560  
atcaacaatg ccatcaaaga cgggacctgg gtggtcttac agaactgcca cctggccgca  
1620  
agctggatgc ctaccctgga gaagatttgt gaggaggtga ttgttctga gagcaccaat  
1680  
gccagattca gactctggct aaccagctat ccacagaga agtttccagt cagcattctc  
1740  
cagaatggaa tcaaaatgac caatgagccc cccaaagggc tccgggcca cctgttgccg  
1800  
tcctacctca atgaccccat ctacagatcct gtgttcttcc aaagctgtgc aaaggcgggtg  
1860  
atgtggcaaa agatgttatt tggcctttgt ttcttccacg ccgttggtca agagagaaga  
1920  
aacttcggcc ccctaggggtg gaatattccc tatgaattca acgaatctga cctgaggatt  
1980  
agtatgtggc agatccagat gtttctcaat gactacaagg aggtgccctt tgatgctctg  
2040  
acctacctga caggggaatg taattacgga ggcagagtga ctgatgacaa agaccggcgt  
2100  
ctctgctgt cacttctgtc catgttctac tgtaaggaaa ttgaggagga ctattactcc  
2160  
ctcgctcctg gagacactta ctacatccct cctcatggct cctaccagtc ctatatcgac  
2220  
tatctcagga atctcccat cacagccac ccagaagtgt tcggcctcca tgagaacgca  
2280  
gacatcacca aagacaacca ggaaaccaac cagctgtttg agggggtcct gctgaccctc  
2340  
cctagacagt caggaggaag tggcaagtcc cctcaggaag tggttgagga gttggcacia  
2400

gacattctct ccaagcttcc cagagacttt gacctggaag aggtcatgaa gttgtacccc  
 2460  
 gtggtctatg aagaatccat gaataccgtc ctaaggcagg agctcatcag attcaacagg  
 2520  
 ctgaccaaag tgggttcggag gagcctcatc aatcttggcc gagccatcaa aggacaggtc  
 2580  
 ctgatgtcct cggagctaga ggaagtcttt aacagcatgc ttgtgggtaa agtgccagcc  
 2640  
 atgtgggcag ccaagtctta cccatcactg aagcctctgg ggggctacgt ggctgacctg  
 2700  
 ctggcccggc tgaccttctt ccaggaatgg attgacaagg gggcccctgt ggtatttttg  
 2760  
 atctctggat tctacttcac acagtctttt ttgactggcg tctctcaaaa ttatgcccg  
 2820  
 aaatatacca tccccattga ccacattgga tttgagtttg aggtaacccc acaagaaaca  
 2880  
 gtgatggaga ataaccocga agatggggcc tacatcaaag ggctcttctt agaaggtgcc  
 2940  
 cgttgggaca ggaaaacgat gcagattggg gaatctctcc ccaaaatcct ctatgaccca  
 3000  
 ctgcccata tttggctgaa acctggggag agcgcaatgt ttctgcatca ggacatctat  
 3060  
 gtgtgtccag tctacaaaac aagtggccgc agaggaaccc tctccaccac aggccactct  
 3120  
 accaactatg tcctctccat tgagcttcca acagacatgc cccagaagca ctggataaac  
 3180  
 cgaggggtgg cctcactgtg ccagctggat aactgatggc atttgtctca agacagaaaa  
 3240  
 taaaaagcat ttcattctta aaaaaaaaaa aaaaaa  
 3276

<210> 4650

<211> 965

<212> PRT

<213> Homo sapiens

<400> 4650

Val	Glu	Tyr	Met	Arg	Leu	Gly	Glu	Asn	Ile	Ile	Glu	Tyr	Ser	Arg	Asp
1				5					10					15	
Phe	Lys	Leu	Tyr	Ile	Thr	Thr	Arg	Leu	Arg	Asn	Pro	His	Tyr	Leu	Pro
			20					25					30		
Glu	Val	Ala	Val	Lys	Val	Cys	Leu	Leu	Asn	Phe	Met	Ile	Thr	Pro	Leu
		35					40					45			
Gly	Leu	Gln	Asp	Gln	Leu	Leu	Gly	Ile	Val	Ala	Ala	Lys	Glu	Lys	Pro
	50					55					60				
Glu	Leu	Glu	Glu	Lys	Lys	Asn	Gln	Leu	Ile	Val	Glu	Ser	Ala	Lys	Asn
65				70						75				80	
Lys	Lys	His	Leu	Lys	Glu	Ile	Glu	Asp	Lys	Ile	Leu	Glu	Val	Leu	Ser
			85					90					95		
Met	Ser	Lys	Gly	Asn	Ile	Leu	Glu	Asp	Glu	Thr	Ala	Ile	Lys	Val	Leu
			100					105					110		
Ser	Ser	Ser	Lys	Val	Leu	Ser	Glu	Glu	Ile	Ser	Glu	Lys	Gln	Lys	Val
		115					120					125			
Ala	Ser	Met	Thr	Glu	Thr	Gln	Ile	Asp	Glu	Thr	Arg	Met	Gly	Tyr	Lys

130 135 140  
 Pro Val Ala Val His Ser Ala Thr Ile Phe Phe Cys Ile Ser Asp Leu  
 145 150 155 160  
 Ala Asn Ile Glu Pro Met Tyr Gln Tyr Ser Leu Thr Trp Phe Ile Asn  
 165 170 175  
 Leu Tyr Met His Ser Leu Thr His Ser Thr Lys Ser Glu Glu Leu Asn  
 180 185 190  
 Leu Arg Ile Lys Tyr Ile Ile Asp His Phe Thr Leu Ser Ile Tyr Asn  
 195 200 205  
 Asn Val Cys Arg Ser Leu Phe Glu Lys Asp Lys Leu Leu Phe Ser Leu  
 210 215 220  
 Leu Leu Thr Ile Gly Ile Met Lys Gln Lys Lys Glu Ile Thr Glu Glu  
 225 230 235 240  
 Val Trp Tyr Phe Leu Leu Thr Gly Gly Ile Ala Leu Asp Asn Pro Tyr  
 245 250 255  
 Pro Asn Pro Ala Pro Gln Trp Leu Ser Glu Lys Ala Trp Ala Glu Ile  
 260 265 270  
 Val Arg Ala Ser Ala Leu Pro Lys Leu His Gly Leu Met Glu His Leu  
 275 280 285  
 Glu Gln Asn Leu Gly Glu Trp Lys Leu Ile Tyr Asp Ser Ala Trp Pro  
 290 295 300  
 His Glu Glu Gln Leu Pro Gly Ser Trp Lys Phe Ser Gln Gly Leu Glu  
 305 310 315 320  
 Lys Met Val Ile Leu Arg Cys Leu Arg Pro Asp Lys Met Val Pro Ala  
 325 330 335  
 Val Arg Glu Phe Ile Ala Glu His Met Gly Lys Leu Tyr Ile Glu Ala  
 340 345 350  
 Pro Thr Phe Asp Leu Gln Gly Ser Tyr Asn Asp Ser Ser Cys Cys Ala  
 355 360 365  
 Pro Leu Ile Phe Val Leu Ser Pro Ser Ala Asp Pro Met Ala Gly Leu  
 370 375 380  
 Leu Lys Phe Ala Asp Asp Leu Gly Met Gly Gly Thr Arg Thr Gln Thr  
 385 390 395 400  
 Ile Ser Leu Gly Gln Gly Gln Gly Pro Ile Ala Ala Lys Met Ile Asn  
 405 410 415  
 Asn Ala Ile Lys Asp Gly Thr Trp Val Val Leu Gln Asn Cys His Leu  
 420 425 430  
 Ala Ala Ser Trp Met Pro Thr Leu Glu Lys Ile Cys Glu Glu Val Ile  
 435 440 445  
 Val Pro Glu Ser Thr Asn Ala Arg Phe Arg Leu Trp Leu Thr Ser Tyr  
 450 455 460  
 Pro Ser Glu Lys Phe Pro Val Ser Ile Leu Gln Asn Gly Ile Lys Met  
 465 470 475 480  
 Thr Asn Glu Pro Pro Lys Gly Leu Arg Ala Asn Leu Leu Arg Ser Tyr  
 485 490 495  
 Leu Asn Asp Pro Ile Ser Asp Phe Val Phe Phe Gln Ser Cys Ala Lys  
 500 505 510  
 Ala Val Met Trp Gln Lys Met Leu Phe Gly Leu Cys Phe Phe His Ala  
 515 520 525  
 Val Val Gln Glu Arg Arg Asn Phe Gly Pro Leu Gly Trp Asn Ile Pro  
 530 535 540  
 Tyr Glu Phe Asn Glu Ser Asp Leu Arg Ile Ser Met Trp Gln Ile Gln  
 545 550 555 560  
 Met Phe Leu Asn Asp Tyr Lys Glu Val Pro Phe Asp Ala Leu Thr Tyr

Leu	Thr	Gly	Glu	Cys	Asn	Tyr	Gly	Gly	Arg	Val	Thr	Asp	Asp	Lys	Asp
			580					585					590		
Arg	Arg	Leu	Leu	Leu	Ser	Leu	Leu	Ser	Met	Phe	Tyr	Cys	Lys	Glu	Ile
		595					600					605			
Glu	Glu	Asp	Tyr	Tyr	Ser	Leu	Ala	Pro	Gly	Asp	Thr	Tyr	Tyr	Ile	Pro
		610				615					620				
Pro	His	Gly	Ser	Tyr	Gln	Ser	Tyr	Ile	Asp	Tyr	Leu	Arg	Asn	Leu	Pro
625					630				635						640
Ile	Thr	Ala	His	Pro	Glu	Val	Phe	Gly	Leu	His	Glu	Asn	Ala	Asp	Ile
				645					650					655	
Thr	Lys	Asp	Asn	Gln	Glu	Thr	Asn	Gln	Leu	Phe	Glu	Gly	Val	Leu	Leu
			660					665					670		
Thr	Leu	Pro	Arg	Gln	Ser	Gly	Gly	Ser	Gly	Lys	Ser	Pro	Gln	Glu	Val
		675					680					685			
Val	Glu	Glu	Leu	Ala	Gln	Asp	Ile	Leu	Ser	Lys	Leu	Pro	Arg	Asp	Phe
		690				695					700				
Asp	Leu	Glu	Glu	Val	Met	Lys	Leu	Tyr	Pro	Val	Val	Tyr	Glu	Glu	Ser
705					710					715					720
Met	Asn	Thr	Val	Leu	Arg	Gln	Glu	Leu	Ile	Arg	Phe	Asn	Arg	Leu	Thr
				725					730					735	
Lys	Val	Val	Arg	Arg	Ser	Leu	Ile	Asn	Leu	Gly	Arg	Ala	Ile	Lys	Gly
			740					745					750		
Gln	Val	Leu	Met	Ser	Ser	Glu	Leu	Glu	Glu	Val	Phe	Asn	Ser	Met	Leu
		755					760					765			
Val	Gly	Lys	Val	Pro	Ala	Met	Trp	Ala	Ala	Lys	Ser	Tyr	Pro	Ser	Leu
		770				775					780				
Lys	Pro	Leu	Gly	Gly	Tyr	Val	Ala	Asp	Leu	Leu	Ala	Arg	Leu	Thr	Phe
785					790					795					800
Phe	Gln	Glu	Trp	Ile	Asp	Lys	Gly	Pro	Pro	Val	Val	Phe	Trp	Ile	Ser
				805					810					815	
Gly	Phe	Tyr	Phe	Thr	Gln	Ser	Phe	Leu	Thr	Gly	Val	Ser	Gln	Asn	Tyr
			820					825					830		
Ala	Arg	Lys	Tyr	Thr	Ile	Pro	Ile	Asp	His	Ile	Gly	Phe	Glu	Phe	Glu
		835					840					845			
Val	Thr	Pro	Gln	Glu	Thr	Val	Met	Glu	Asn	Asn	Pro	Glu	Asp	Gly	Ala
		850				855					860				
Tyr	Ile	Lys	Gly	Leu	Phe	Leu	Glu	Gly	Ala	Arg	Trp	Asp	Arg	Lys	Thr
865					870					875					880
Met	Gln	Ile	Gly	Glu	Ser	Leu	Pro	Lys	Ile	Leu	Tyr	Asp	Pro	Leu	Pro
				885					890					895	
Ile	Ile	Trp	Leu	Lys	Pro	Gly	Glu	Ser	Ala	Met	Phe	Leu	His	Gln	Asp
			900					905					910		
Ile	Tyr	Val	Cys	Pro	Val</										

<210> 4651

<211> 869



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4651

ngggcccgca ctttcccgga gtgcaccccg cggccgccag ccggggcgat ggccggggctc  
 60  
 tggctggggc tcgtgtggca gaagctgctg ctgtggggcg cggcgagtgc cgtttccctg  
 120  
 gccggcgcca gtctggtcct gagcctgctg cagaggggtg cgagctacgc gcggaaatgg  
 180  
 cagcagatgc ggcccatccc cagggtggcc cgcgcctacc cactggtggg ccacgcgctg  
 240  
 ctgatgaagc cggacggggc agaatttttt cagcagatca ttgagtacac agaggaatac  
 300  
 cgccacatgc cgctgctgaa gctctgggtc gggccagtgc ccatggtggc cctttataat  
 360  
 gcagaaaatg tggaggtaat tttactagt tcaaagcaaa ttgacaaatc ctctatgtac  
 420  
 aagtttttag aaccatggct tggcctagga cttcttacia gtactggaaa caaatggcgc  
 480  
 tccaggagaa agatgttaac acccactttc cattttacca ttctggaaga tttcttagat  
 540  
 atcatgaatg aacaagcaaa tatattgggt aagaaacttg aaaaacacat taaccaagaa  
 600  
 gcatttaact gcttttttta catcactctt tgtgccttag atatcatctg tgaaacagct  
 660  
 atggggaaga atattggtgc tcaaagtaat gatgattccg agtatgtccg tgcagtttat  
 720  
 agaatgagtg agatgatatt tccaagaata aagatgcctt ggctttggct tgatctctgg  
 780  
 taccttatgt ttaaagaagg atgggaacac aaaaagagcc ttaagatcct acatactttt  
 840  
 acccacagtg tcatcccgga acgggcca  
 869

&lt;210&gt; 4652

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4652

Xaa	Ala	Arg	Thr	Phe	Pro	Glu	Cys	Thr	Pro	Arg	Pro	Pro	Ala	Gly	Ala
1				5					10					15	
Met	Ala	Gly	Leu	Trp	Leu	Gly	Leu	Val	Trp	Gln	Lys	Leu	Leu	Leu	Trp
			20					25					30		
Gly	Ala	Ala	Ser	Ala	Val	Ser	Leu	Ala	Gly	Ala	Ser	Leu	Val	Leu	Ser
		35					40					45			
Leu	Leu	Gln	Arg	Val	Ala	Ser	Tyr	Ala	Arg	Lys	Trp	Gln	Gln	Met	Arg
	50					55				60					
Pro	Ile	Pro	Thr	Val	Ala	Arg	Ala	Tyr	Pro	Leu	Val	Gly	His	Ala	Leu
65					70				75					80	
Leu	Met	Lys	Pro	Asp	Gly	Arg	Glu	Phe	Phe	Gln	Gln	Ile	Ile	Glu	Tyr
			85					90						95	
Thr	Glu	Glu	Tyr	Arg	His	Met	Pro	Leu	Leu	Lys	Leu	Trp	Val	Gly	Pro

	100		105		110
Val	Pro Met	Val Ala Leu Tyr	Asn Ala Glu Asn	Val Glu Val	Ile Leu
	115		120		125
Thr	Ser Ser Lys	Gln Ile Asp Lys	Ser Ser Met Tyr	Lys Phe	Leu Glu
	130		135		140
Pro	Trp Leu Gly	Leu Gly Leu Leu	Thr Ser Thr Gly	Asn Lys Trp	Arg
145		150		155	160
Ser	Arg Arg Lys	Met Leu Thr Pro	Thr Phe His Phe	Thr Ile Leu	Glu
	165		170		175
Asp	Phe Leu Asp	Ile Met Asn Glu	Gln Ala Asn Ile	Leu Val Lys	Lys
	180		185		190
Leu	Glu Lys His	Ile Asn Gln Glu	Ala Phe Asn Cys	Phe Phe Tyr	Ile
	195		200		205
Thr	Leu Cys Ala	Leu Asp Ile Ile	Cys Glu Thr Ala	Met Gly Lys	Asn
	210		215		220
Ile	Gly Ala Gln	Ser Asn Asp Asp	Ser Glu Tyr Val	Arg Ala Val	Tyr
225		230		235	240
Arg	Met Ser Glu	Met Ile Phe Pro	Arg Ile Lys Met	Pro Trp Leu	Trp
	245		250		255
Leu	Asp Leu Trp	Tyr Leu Met Phe	Lys Glu Gly Trp	Glu His Lys	Lys
	260		265		270
Ser	Leu Lys Ile	Leu His Thr Phe	Thr His Ser Val	Ile Pro Glu	Arg
	275		280		285
Ala					

&lt;210&gt; 4653

&lt;211&gt; 1276

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4653

nagcgctccc gtgggtggaa cagtgactct tcgagaagac agtgccaaga ggttggagag  
60

gagggcacgc cgcattctccg catgtctgtc ggattattcg ctagccagcg acagtggggt  
120

gtttgaacct ctaacaaaaa ggaacgaaga tgccgaggag cctgcctacg gagacacggc  
180

cagtaacgga gatccccaga tccacgtggg actcctgcgc gacagtggca gcgagtgtct  
240

cctcgtgcac gtgctgcagc tgaagaaccc ggcggggctg gcggtgaagg aagactgcaa  
300

agttccacatc cgagtctatt tgccccact tcggtggata gcggtgttag caactgcacc  
360

cagaccagcc ctccgtaccc agagccctgt tgcattggga tcgactccat cctggggccac  
420

ccatttgctg ctcaggcagg gccttacagc cccgagaaat ttcagccctc gcctcttaag  
480

gttgataagg aaaccaacac ggaagatctc tttctggaag aagcagccag cctcgtgaag  
540

gagcggccca gccgcggggc ccgagggctg ccttttgctc ggagtggcac gattgtccgt  
600

tcccagacat tctcgcctgg agcacgaagc cagtatgttt gcagacttta tcgtagtgac  
660

agcgacagtt caacgctgcc ccggaagtcc ccccttgtcc gaaatacttt ggaaagacga  
 720  
 acccttcgct ataagcagtc atgcaggtct tccctggctg agctcatggc ccgcacctcc  
 780  
 ctggacttgg agctggatct ccaggcgtcg agaacacggc agaggcagct gaatgaggag  
 840  
 ctctgcgccc tccgtgagct gcggcagcgg ttggaggacg cccagctccg tggccagact  
 900  
 gacctcccac cctgggtgct tcgggacgag cggctccgtg gcctgctgcg ggaggccgag  
 960  
 cggcagacaa gacagaccaa acttgactac cgctcatgagc aggcggctga gaagatgctg  
 1020  
 aagaaggcct ccaaggagat ctaccagctg cgtgggcaga gccacaaaga gcccatccaa  
 1080  
 gtgcagacct ttagggagaa gatagcattc ttcacaaggc caaggatcaa catacctcct  
 1140  
 ctcccagccg acgacgtctg atggagtga ttgtgcacat gaagtattta tccacctgtt  
 1200  
 ttattttcat gaagttctta gactagctga atttgtcttt aaaatatttg tgcaaagcta  
 1260  
 ttaatatata catttt  
 1276

&lt;210&gt; 4654

&lt;211&gt; 255

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4654

Met	Gly	Ile	Asp	Ser	Ile	Leu	Gly	His	Pro	Phe	Ala	Ala	Gln	Ala	Gly
1				5					10				15		
Pro	Tyr	Ser	Pro	Glu	Lys	Phe	Gln	Pro	Ser	Pro	Leu	Lys	Val	Asp	Lys
			20					25					30		
Glu	Thr	Asn	Thr	Glu	Asp	Leu	Phe	Leu	Glu	Glu	Ala	Ala	Ser	Leu	Val
		35					40					45			
Lys	Glu	Arg	Pro	Ser	Arg	Arg	Ala	Arg	Gly	Ser	Pro	Phe	Val	Arg	Ser
		50				55					60				
Gly	Thr	Ile	Val	Arg	Ser	Gln	Thr	Phe	Ser	Pro	Gly	Ala	Arg	Ser	Gln
65				70						75				80	
Tyr	Val	Cys	Arg	Leu	Tyr	Arg	Ser	Asp	Ser	Asp	Ser	Ser	Thr	Leu	Pro
			85					90					95		
Arg	Lys	Ser	Pro	Phe	Val	Arg	Asn	Thr	Leu	Glu	Arg	Arg	Thr	Leu	Arg
			100					105					110		
Tyr	Lys	Gln	Ser	Cys	Arg	Ser	Ser	Leu	Ala	Glu	Leu	Met	Ala	Arg	Thr
		115					120					125			
Ser	Leu	Asp	Leu	Glu	Leu	Asp	Leu	Gln	Ala	Ser	Arg	Thr	Arg	Gln	Arg
		130				135					140				
Gln	Leu	Asn	Glu	Glu	Leu	Cys	Ala	Leu	Arg	Glu	Leu	Arg	Gln	Arg	Leu
145					150					155				160	
Glu	Asp	Ala	Gln	Leu	Arg	Gly	Gln	Thr	Asp	Leu	Pro	Pro	Trp	Val	Leu
			165					170						175	
Arg	Asp	Glu	Arg	Leu	Arg	Gly	Leu	Leu	Arg	Glu	Ala	Glu	Arg	Gln	Thr
			180					185					190		
Arg	Gln	Thr	Lys	Leu	Asp	Tyr	Arg	His	Glu	Gln	Ala	Ala	Glu	Lys	Met



130 135 140  
 Gly Arg Gln His His Gly Arg Pro  
 145 150

<210> 4657  
 <211> 723  
 <212> DNA  
 <213> Homo sapiens

<400> 4657  
 nnacgcgtga tggctggcgg agtcatggac aaggagtacg tgggttttgc tgccctcccc  
 60  
 aaccagctgc accgcaagtc tgtcaagaag gggtttgact tcacgctaata ggtggcaggg  
 120  
 gagtcaggcc tagggaaatc caccctcatc aacagcctct tcctcaccaa cctctatgag  
 180  
 gatcgccagg tgccagaggc cagtgtctgc ttgacacaga ccctggccat tgagcgccgg  
 240  
 ggcgtagaga ttgaggaagg ggggtgtgaaa gtgaagctga cccttgtgga cacacctggc  
 300  
 tttggggact cagtggactg ctctgactgc tggcttccgg tggtgaaatt catcgaggag  
 360  
 caatttgagc agtaccttag ggatgagagt ggcctgaacc ggaagaacat ccaggactcc  
 420  
 cgagtccact gctgcctcta cttcatctca cccttcggcc gggctccggc ccctagatgt  
 480  
 ggcttctctc gggcaatata cgagaaagtc aacatcatcc cagtcattgg caaagcggat  
 540  
 gccctgatgc cccaggaaac ccaggccctc aagcagaaga tccgggatca gttgaaggaa  
 600  
 gaggagatcc acatctacca gttccccgaa tgtgactctg atgaagatga agacttcaag  
 660  
 aggcaggatg cagagatgaa ggaaagcatc ccttttgcag tcgtgggatc atgcgagggtg  
 720  
 gta  
 723

<210> 4658  
 <211> 233  
 <212> PRT  
 <213> Homo sapiens

<400> 4658  
 Met Asp Lys Glu Tyr Val Gly Phe Ala Ala Leu Pro Asn Gln Leu His  
 1 5 10 15  
 Arg Lys Ser Val Lys Lys Gly Phe Asp Phe Thr Leu Met Val Ala Gly  
 20 25 30  
 Glu Ser Gly Leu Gly Lys Ser Thr Leu Ile Asn Ser Leu Phe Leu Thr  
 35 40 45  
 Asn Leu Tyr Glu Asp Arg Gln Val Pro Glu Ala Ser Ala Arg Leu Thr  
 50 55 60  
 Gln Thr Leu Ala Ile Glu Arg Arg Gly Val Glu Ile Glu Glu Gly Gly  
 65 70 75 80  
 Val Lys Val Lys Leu Thr Leu Val Asp Thr Pro Gly Phe Gly Asp Ser

```
<210> 4659
<211> 864
<212> DNA
<213> Homo sapiens
```

```

<400> 4659
tttaaaagca gtggaaatta gtaaacaagg ttccgagcag gaaatgtctt gtggcctggg
60
agagaatctc accacaaatg aaaactacgt gaaaggccct gcactgaaaa tgcaagctca
120
ggcgccggtg gtcgttgtga cccaacctgg agtcgggtccc ggtccggccc ccagaaactc
180
caactggcag acaggcatgt gtgactgttt cagcgactgc ggagtctgtc tctgtggcac
240
attttgtttc ccgtgccttg ggtgtcaagt tgcagctgat atgaatgaat gctgtctgtg
300
tggaacaagc gtcgcaatga ggactctcta caggacccga tatggcatcc ctggatctat
360
ttgtgatgac tatatggcaa ctctttgctg tcctcattgt actctttgcc aaatcaagag
420
agatatcaac agaaggagag ccattgcgtac tttctaaaaa ctgatgggtga aaagctctta
480
ccgaagcaac aaaattcagc agacacctct tcagcttgag ttcttcacca tcttttgcaa
540
ctgaaatatg atggatatgc ttaagtacaa ctgatggcat gaaaaaaatc aaatttttga
600
tttattataa atgaatgttg tccttgaact tagctaaatg gtgcaactta gtttctcctt
660
gctttcatat tatcgaattc gaatttcctg gcttataaac tttttaaatt acatttgaaa
720
tataaaccaa atgaaatatt ttactgataa gattcttcat gcttctttgc tctccttaaa
780
atgtcttttt cactagttag ttccaagggt cagtctcata attttgttct tatactttga
840

```

tttcctttttt cttttttttt ttg  
864

<210> 4660  
<211> 192  
<212> PRT  
<213> Homo sapiens

<400> 4660  
Met Pro Ser Val Val Leu Lys His Ile His His Ile Ser Val Ala Lys  
1 5 10 15  
Asp Gly Glu Glu Leu Lys Leu Lys Arg Cys Leu Leu Asn Phe Val Ala  
20 25 30  
Ser Val Arg Ala Phe His His Gln Phe Leu Glu Ser Thr His Gly Ser  
35 40 45  
Pro Ser Val Asp Ile Ser Leu Asp Leu Ala Lys Ser Thr Met Arg Thr  
50 55 60  
Ala Lys Ser Cys His Ile Val Ile Thr Asn Arg Ser Arg Asp Ala Ile  
65 70 75 80  
Ser Gly Pro Val Glu Ser Pro His Cys Asp Ala Cys Ser Thr Gln Thr  
85 90 95  
Ala Phe Ile His Ile Ser Cys Asn Leu Thr Pro Lys Ala Arg Glu Thr  
100 105 110  
Lys Cys Ala Thr Glu Thr Asp Ser Ala Val Ala Glu Thr Val Thr His  
115 120 125  
Ala Cys Leu Pro Val Gly Val Leu Gly Gly Arg Thr Gly Thr Asp Ser  
130 135 140  
Arg Leu Gly His Asn Asp His Arg Arg Leu Ser Leu His Phe Gln Cys  
145 150 155 160  
Arg Ala Phe His Val Val Phe Ile Cys Gly Glu Ile Leu Ser Gln Ala  
165 170 175  
Thr Arg His Phe Leu Leu Gly Thr Leu Phe Thr Asn Phe His Cys Phe  
180 185 190

<210> 4661  
<211> 153  
<212> DNA  
<213> Homo sapiens

<400> 4661  
cggatctgca tgccgctcac cgtagacgag tacaaaattg gacagctgta catgatcagc  
60  
aaacacagcc atgaacagag tgaccgggga gaaggggtgg aggtcgtcca gaatgagccc  
120  
tttgaggacc ctcaccatgg ccatgggcag ttc  
153

<210> 4662  
<211> 51  
<212> PRT  
<213> Homo sapiens

<400> 4662  
Arg Ile Cys Met Pro Leu Thr Val Asp Glu Tyr Lys Ile Gly Gln Leu

1                      5                      10                      15  
 Tyr Met Ile Ser Lys His Ser His Glu Gln Ser Asp Arg Gly Glu Gly  
                     20                      25                      30  
 Val Glu Val Val Gln Asn Glu Pro Phe Glu Asp Pro His His Gly His  
                     35                      40                      45  
 Gly Gln Phe  
                     50

&lt;210&gt; 4663

&lt;211&gt; 1550

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4663

atgttccggc acacggacag cctctttccc atcctactgc agacgttata ggatgaatcg  
 60  
 gatgaggtga tcctgaagga cctggagggtg ctggcagaaa tcgcttcctc ccccgaggc  
 120  
 cagacggatg acccaggccc cctcgatggc cctgacctcc aggccagcca ctcagagctc  
 180  
 caggtgcccc cccctggcag agccggccta ctgaacacct ctggtaccaa aggcttagaa  
 240  
 tggttcctt caactccac catgaattct tacttttata agttcatgat caaccttctc  
 300  
 aagagattca gcagcgaacg gaagctcctg gaggtcagag gccctttcat catcaggcag  
 360  
 ctgtgcctcc tgctgaatgc ggagaacatc ttccactcaa tggcagacat cctgctgcgg  
 420  
 gaggaggacc tcaagttcgc ctcgaccatg gtccacgccc tcaacaccat cctgctgacc  
 480  
 tccacagagc tcttccagct aaggaaccag ctgaaggacc tgaagaccct ggagagccag  
 540  
 aacctgttct gctgcctgta ccgctcctgg tgccacaacc cagtcaccac ggtgtccctc  
 600  
 tgcttctca cccagaacta ccggcacgcc tatgacctca tccagaagtt tggggacctg  
 660  
 gaggtcaccg tggacttcct cgcagagggtg gacaagctgg tgcagctgat tgagtgtccc  
 720  
 atcttcacat atctgcgcct gcagctgctg gacgtgaaga acaacccta cctgatcaag  
 780  
 gccctctacg gcctgctcat gctcctgccg cagagcagcg ccttccagct gctctgcac  
 840  
 cggctccagt gcgtgccccaa ccctgagctg ctgcagaccg aagacagtct aaaggcagcc  
 900  
 cccaagtccc agaaagctga ctcccctagc atcgactacg cagagctgct gcagcacttt  
 960  
 gagaaggtcc agaacaagca cctggaagtg cggcaccagc ggagcgggcg tggggaccac  
 1020  
 ctggaccgga ggggtgtcct ctgacaggcc tggcacggag gagggccac cgagtggctc  
 1080  
 catgaaacac taagggtcgt cagccctcc cgaggagctc aaggacctgc ctgtcaggac  
 1140  
 cagggtggg cctgccaacc cagggcagtg ttggggccgg aggctgctgt gtctgccccaa  
 1200



gctcctctca gaggccagtc cccaggcctc cagcgctgtc agctgcaccc tggcattctc  
 1260  
 acagagctgg ctgcccaccc agtggggggc tatagcctca gagaccactc atcctctgga  
 1320  
 atcaacctct ttctaatacc ctcttgaaaa aagagcttgc cctcctcca gcacactaga  
 1380  
 gctctggcct tgtgtgtata tgtatacata cgtgaacaca tgcctgtgtg tgtgtgtgtg  
 1440  
 tgtgtacttg tatgcacgta ggcaccagca caaagatctg aatgatgcac cccaccccca  
 1500  
 ccccaataaa gaaataacag aaaaccctca aaaaaaaaaa aaaaaaaaaa  
 1550

<210> 4664

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4664

Met	Phe	Arg	His	Thr	Asp	Ser	Leu	Phe	Pro	Ile	Leu	Leu	Gln	Thr	Leu
1				5					10					15	
Ser	Asp	Glu	Ser	Asp	Glu	Val	Ile	Leu	Lys	Asp	Leu	Glu	Val	Leu	Ala
		20						25					30		
Glu	Ile	Ala	Ser	Ser	Pro	Ala	Gly	Gln	Thr	Asp	Asp	Pro	Gly	Pro	Leu
	35						40					45			
Asp	Gly	Pro	Asp	Leu	Gln	Ala	Ser	His	Ser	Glu	Leu	Gln	Val	Pro	Thr
	50					55					60				
Pro	Gly	Arg	Ala	Gly	Leu	Leu	Asn	Thr	Ser	Gly	Thr	Lys	Gly	Leu	Glu
65					70					75				80	
Cys	Ser	Pro	Ser	Thr	Pro	Thr	Met	Asn	Ser	Tyr	Phe	Tyr	Lys	Phe	Met
			85					90					95		
Ile	Asn	Leu	Leu	Lys	Arg	Phe	Ser	Ser	Glu	Arg	Lys	Leu	Leu	Glu	Val
		100					105						110		
Arg	Gly	Pro	Phe	Ile	Ile	Arg	Gln	Leu	Cys	Leu	Leu	Leu	Asn	Ala	Glu
	115						120					125			
Asn	Ile	Phe	His	Ser	Met	Ala	Asp	Ile	Leu	Leu	Arg	Glu	Glu	Asp	Leu
	130					135					140				
Lys	Phe	Ala	Ser	Thr	Met	Val	His	Ala	Leu	Asn	Thr	Ile	Leu	Leu	Thr
145					150					155				160	
Ser	Thr	Glu	Leu	Phe	Gln	Leu	Arg	Asn	Gln	Leu	Lys	Asp	Leu	Lys	Thr
			165						170				175		
Leu	Glu	Ser	Gln	Asn	Leu	Phe	Cys	Cys	Leu	Tyr	Arg	Ser	Trp	Cys	His
		180						185					190		
Asn	Pro	Val	Thr	Thr	Val	Ser	Leu	Cys	Phe	Leu	Thr	Gln	Asn	Tyr	Arg
		195					200					205			
His	Ala	Tyr	Asp	Leu	Ile	Gln	Lys	Phe	Gly	Asp	Leu	Glu	Val	Thr	Val
	210					215					220				
Asp	Phe	Leu	Ala	Glu	Val	Asp	Lys	Leu	Val	Gln	Leu	Ile	Glu	Cys	Pro
225					230					235				240	
Ile	Phe	Thr	Tyr	Leu	Arg	Leu	Gln	Leu	Leu	Asp	Val	Lys	Asn	Asn	Pro
		245						250					255		
Tyr	Leu	Ile	Lys	Ala	Leu	Tyr	Gly	Leu	Leu	Met	Leu	Leu	Pro	Gln	Ser
		260						265					270		
Ser	Ala	Phe	Gln	Leu	Leu	Ser	His	Arg	Leu	Gln	Cys	Val	Pro	Asn	Pro

275	280	285
Glu Leu Leu Gln Thr Glu Asp Ser Leu Lys Ala	Ala Pro Lys Ser Gln	
290	295	300
Lys Ala Asp Ser Pro Ser Ile Asp Tyr Ala Glu	Leu Leu Gln His Phe	
305	310	315
Glu Lys Val Gln Asn Lys His Leu Glu Val Arg	His Gln Arg Ser Gly	
325	330	335
Arg Gly Asp His Leu Asp Arg Arg Val Val Leu		
340	345	

&lt;210&gt; 4665

&lt;211&gt; 1043

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4665

```

nttcggcacg aggggtggatc tcatcgaaag gcggcgcgat ctgtgtcggg cattaccaga
60
agagtcttca tgtggacagt ctcagggaca ccatgtagag aatttttggtc tcgattcaga
120
aaagagaaaag agccagtggg tgttgagaca gtagaagaga aaaaggaacc tatcctagtg
180
tgtccacctt tacgaagccg agcatacaca ccacctgaag atctccagag tcgtttgga
240
tcttacgtta aagaagtttt tggttcatct cttcctagta attggcaaga catctccctg
300
gaagatagtc gtctaaagtt caatcttctg gctcatttag ctgatgactt ggggtcatgt
360
gtccctaact ccagactcca ccagatgtgc aggggtagag atgttcttga tttctataat
420
gtccctattc aagatagatc taaatttgat gaactcagtg ccagtaatct gcccccaat
480
ttgaaaatca cttggagtta ctaagcaatt cggaagagaa acacattgaa atcactgtct
540
ttccctgagc aagggggctg ctcattagat cttttgatac tttaccatgt gaaatactac
600
cagaactgtt ctctaaaccc actttttctg tagaggaatg tatcatcttt ttttttctca
660
tattacaaat ggacaaataa cggactttct attttcatat ttgctgaaac cattttttaa
720
atgaaattag gtcattatct atgaaaagtt ttgagagggc actgtcaact tgggtttaag
780
acaggaggac attgcaagtt cacacctttc ataagcataa agtagttgca agaaagtatt
840
ttcatcctgt taggattcat atctaagata gagttatgca ttgcacatac acaaataaac
900
ttttattaga tagataccta taaaagaaac ataaaagtat gttgtgtatt actgacagtt
960
ctagattaat ttctttttaga attaaagtag atttggttaa aaaaaaaaaa aaaaaaaaaa
1020
aaaaaaaaaa aaaaaaaaaa aaa
1043

```

&lt;210&gt; 4666

<211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 4666

```

Xaa Arg His Glu Gly Gly Ser His Arg Lys Ala Ala Arg Ser Val Ser
 1           5           10           15
Gly Ile Thr Arg Arg Val Phe Met Trp Thr Val Ser Gly Thr Pro Cys
      20           25           30
Arg Glu Phe Trp Ser Arg Phe Arg Lys Glu Lys Glu Pro Val Val Val
      35           40           45
Glu Thr Val Glu Glu Lys Lys Glu Pro Ile Leu Val Cys Pro Pro Leu
      50           55           60
Arg Ser Arg Ala Tyr Thr Pro Pro Glu Asp Leu Gln Ser Arg Leu Glu
65           70           75           80
Ser Tyr Val Lys Glu Val Phe Gly Ser Ser Leu Pro Ser Asn Trp Gln
      85           90           95
Asp Ile Ser Leu Glu Asp Ser Arg Leu Lys Phe Asn Leu Leu Ala His
      100          105          110
Leu Ala Asp Asp Leu Gly His Val Val Pro Asn Ser Arg Leu His Gln
      115          120          125
Met Cys Arg Val Arg Asp Val Leu Asp Phe Tyr Asn Val Pro Ile Gln
      130          135          140
Asp Arg Ser Lys Phe Asp Glu Leu Ser Ala Ser Asn Leu Pro Pro Asn
145          150          155          160
Leu Lys Ile Thr Trp Ser Tyr
      165

```

<210> 4667  
 <211> 1031  
 <212> DNA  
 <213> Homo sapiens

<400> 4667

```

ntggccatgg gcacgtccct gtatgcccc gaggtatgta actgctctgc gcctgacacg
60
ggcaacatgg agctgctggt gaggtatggc accgaagcgc agaaggctcg ctggctgatt
120
cctctgctgg aggggaaagc ccgctcctgt tttgctatga ccgagcccca ggttgccctt
180
tcagatgcca ccaacattga ggcttccatc agagaggagg acagcttcta tgtcataaac
240
ggtcacaaat ggtggatcac aggcatacctg gatcctcggt gccaaactctg tgtgtttatg
300
ggaaaaacag acccacatgc accaagacac cggcagcagt ctgtgctctt gggtcccatg
360
gataccccag ggataaaaaat catccggcct ctgacggtgt atggactgga agatgcacca
420
ggtggccatg gtgaagtccg atttgagcac gtgcgtgtgc ccaaagagaa catggtcctg
480
ggccctggcc gaggttttga gatcgcccag ggcagactgg gccccggcag gatccatcac
540
tgcattgaggc tgatcgggtt ctcagagagg gccctggcac tcatgaaggc ccgcgtgagt
600

```

gctttccccc gcaccagca ctgactcaga accaccacct tctgctttgc tgcggactt  
 660  
 caattcctac ctgttttctg agtgcagtcc tagcaggtga agcaaggtga tgccttgcc  
 720  
 aagaagttgc attcctgtct gctttgcac tgctactttg ctgcagtttg gattcagagc  
 780  
 agaatggacc ccactctgtc gaggtgacct gaagggaac gccaggctct gtagcagcag  
 840  
 agggcaaggt tccaaggtgt aaaggatcatg ctgctagcac attattaaaa atcagtcctg  
 900  
 gtgcaatggc tcacagctat aatcccagta ctttgggagg tctaggtagg agggttgctt  
 960  
 gaagccaagc atttgagacc agcctaggcg aaaaagagag actcagtcct taaaaaaaaa  
 1020  
 aaaaaaaaaa a  
 1031

<210> 4668  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 4668  
 Xaa Ala Met Gly Thr Ser Leu Tyr Ala Pro Glu Val Cys Asn Cys Ser  
 1 5 10 15  
 Ala Pro Asp Thr Gly Asn Met Glu Leu Leu Val Arg Tyr Gly Thr Glu  
 20 25 30  
 Ala Gln Lys Ala Arg Trp Leu Ile Pro Leu Leu Glu Gly Lys Ala Arg  
 35 40 45  
 Ser Cys Phe Ala Met Thr Glu Pro Gln Val Ala Ser Ser Asp Ala Thr  
 50 55 60  
 Asn Ile Glu Ala Ser Ile Arg Glu Glu Asp Ser Phe Tyr Val Ile Asn  
 65 70 75 80  
 Gly His Lys Trp Trp Ile Thr Gly Ile Leu Asp Pro Arg Cys Gln Leu  
 85 90 95  
 Cys Val Phe Met Gly Lys Thr Asp Pro His Ala Pro Arg His Arg Gln  
 100 105 110  
 Gln Ser Val Leu Leu Val Pro Met Asp Thr Pro Gly Ile Lys Ile Ile  
 115 120 125  
 Arg Pro Leu Thr Val Tyr Gly Leu Glu Asp Ala Pro Gly Gly His Gly  
 130 135 140  
 Glu Val Arg Phe Glu His Val Arg Val Pro Lys Glu Asn Met Val Leu  
 145 150 155 160  
 Gly Pro Gly Arg Gly Phe Glu Ile Ala Gln Gly Arg Leu Gly Pro Gly  
 165 170 175  
 Arg Ile His His Cys Met Arg Leu Ile Gly Phe Ser Glu Arg Ala Leu  
 180 185 190  
 Ala Leu Met Lys Ala Arg Val Ser Ala Phe Pro Arg Thr Gln His  
 195 200 205

<210> 4669  
 <211> 683  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 4669

nnaagcttca gtgggctacg tggaatcata caagaaaaat atagagcaaa taaaaagaaa  
 60  
 cagaaagtat ttcaacacaa tgaacttaag aaagagactt gtgttcaggc aggttttcag  
 120  
 gacatgaaca taaaaaaaca gattcaggaa cagcaccagg ctgccattat tattcagaag  
 180  
 cattgtaaag cctttaaaat aaggaagcat tatctccaca ttagagcaac agtagtttct  
 240  
 attcaaagaa gatacagaaa actaactgca gtgcgtaccc aagcagttat ttgtatacag  
 300  
 tcttattaca gaggctttta agtacgaaag gatattcaaa atatgcaccg ggctgccaca  
 360  
 ctaattcagt cattctatcg aatgcacagg gccaaagttg attattaaac aaagaaaact  
 420  
 gcaattgtgg ttatacagaa ttattatagg ttgtatgtta gagtaaaaac agaaagaaaa  
 480  
 aacttttttag cagttcagaa atctgtccga actattcagg ctgcttttag aggcataaaa  
 540  
 gttagacaaa aattgaaaaa atgtatcaga ggaaaagatg gcagccattg ttaaccaatc  
 600  
 tgcactctgc tgttacagaa gtaaaactca gtatgaagct gttcaaagtg aagggtgttat  
 660  
 gattcaagag tgggtataaag ctt  
 683

&lt;210&gt; 4670

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4670

Xaa	Ser	Phe	Ser	Gly	Leu	Arg	Gly	Ile	Ile	Gln	Glu	Lys	Tyr	Arg	Ala
1				5				10						15	
Asn	Lys	Lys	Lys	Gln	Lys	Val	Phe	Gln	His	Asn	Glu	Leu	Lys	Lys	Glu
			20					25					30		
Thr	Cys	Val	Gln	Ala	Gly	Phe	Gln	Asp	Met	Asn	Ile	Lys	Lys	Gln	Ile
		35					40					45			
Gln	Glu	Gln	His	Gln	Ala	Ala	Ile	Ile	Ile	Gln	Lys	His	Cys	Lys	Ala
	50					55				60					
Phe	Lys	Ile	Arg	Lys	His	Tyr	Leu	His	Ile	Arg	Ala	Thr	Val	Val	Ser
65					70				75					80	
Ile	Gln	Arg	Arg	Tyr	Arg	Lys	Leu	Thr	Ala	Val	Arg	Thr	Gln	Ala	Val
			85					90					95		
Ile	Cys	Ile	Gln	Ser	Tyr	Tyr	Arg	Gly	Phe	Lys	Val	Arg	Lys	Asp	Ile
			100					105					110		
Gln	Asn	Met	His	Arg	Ala	Ala	Thr	Leu	Ile	Gln	Ser	Phe	Tyr	Arg	Met
		115					120						125		
His	Arg	Ala	Lys	Val	Asp	Tyr									
		130				135									

&lt;210&gt; 4671

&lt;211&gt; 657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4671

accggtccag ggcattcagg tgttcctcca ggcccaggag agtgctgcac acccggtcca  
60  
gcaccagcgc catccgcttc gaggttgagc ctctgcagc agtggaatca ggggcctcct  
120  
ggggctcggc aggggctacc cggtccgct tccgccagc aatggagact gcagccacgt  
180  
taggccaggc tgctgcagtg gtttcagcat ctatccgcag ggatccacgg ggaagctggt  
240  
gtgcgccgga taaagatggc aaccgccgat gagattgtga aactcatgct cgaccacatg  
300  
acaaacacca ccaacgcgtc ccatgtgcct gtgcagcccg gtcctcagc tgtgatgatg  
360  
gtcaacaacc tgggtggcct gtcattcctg gaactgggca tcatagccga cgctaccgtc  
420  
cgctccctgg agggccgcgg ggtgaagatt gcccggtccc tgggtgggcac cttcatgtca  
480  
gcactggaga tgccctggcat ttctctcacc ctctgctgg tggatgagcc tctcctgaaa  
540  
ctgatagatg ctgaaaccac tgcagcagcc tggcctcgaa gcggatggcg ctggtgctgg  
600  
aacgggtgtg cagcactctc ctgggcctgg aggaacacct gaatgcctg gaccggt  
657

&lt;210&gt; 4672

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4672

Ala Arg Leu Leu Gln Trp Phe Gln His Leu Ser Ala Gly Ile His Gly  
1 5 10 15  
Glu Ala Gly Val Arg Arg Ile Lys Met Ala Thr Ala Asp Glu Ile Val  
20 25 30  
Lys Leu Met Leu Asp His Met Thr Asn Thr Thr Asn Ala Ser His Val  
35 40 45  
Pro Val Gln Pro Gly Ser Ser Val Val Met Met Val Asn Asn Leu Gly  
50 55 60  
Gly Leu Ser Phe Leu Glu Leu Gly Ile Ile Ala Asp Ala Thr Val Arg  
65 70 75 80  
Ser Leu Glu Gly Arg Gly Val Lys Ile Ala Arg Ala Leu Val Gly Thr  
85 90 95  
Phe Met Ser Ala Leu Glu Met Pro Gly Ile Ser Leu Thr Leu Leu Leu  
100 105 110  
Val Asp Glu Pro Leu Leu Lys Leu Ile Asp Ala Glu Thr Thr Ala Ala  
115 120 125  
Ala Trp Pro Arg Ser Gly Trp Arg Trp Cys Trp Asn Gly Cys Ala Ala  
130 135 140  
Leu Ser Trp Ala Trp Arg Asn Thr  
145 150

<210> 4673  
<211> 1335  
<212> DNA  
<213> Homo sapiens

<400> 4673  
ccgcggcttc tggctgcgcg gcctgcgcgc gcctcccgagg cggtattccag ccccgagcgg  
60  
gacagcgcag cggggagcga cgagatttct ctctgatcaa acggacagtt caggactcag  
120  
aatctaagga tgaatgttca ccgtggcagt gacagtgaca gggtattgctg gcaggaggcc  
180  
agctgcttag tggatgatac tttagctgta gccaagaaa aagaagcaaa cagcctggct  
240  
tcattctggc ctcataatct tacttatect ctaggtccca ggaatgaaga cctctcactt  
300  
gactatgcct ctacagccagc aaatcttcag ttccctcaca taatgcccct tgctgaagac  
360  
atcaaagggt cttgcttcca aagtgggaat aaacggaacc atgaaccttt tattgctcca  
420  
gaaagatttg gaaacagtag tgtgggcttt ggcagtaatt ccattccca agcaccagag  
480  
aaagtgcgc ttctttaga tggcacacgt ttgtgtgga atccacagat tttactgct  
540  
catccggata ccatgctggg aaggatgttt ggaccaggaa gagagtacaa cttactcgg  
600  
cccaatgaga agggagagta tgagattgct gaaggcatca gtgcaactgt atttcgcaca  
660  
gtgctggatt attacaaaac cggatcatc aattgtcctg atggcatctc tatccagat  
720  
cttagagata cttgtgatta tctctgcatt aattttgact tcaacactat ccgatgtcaa  
780  
gatctgagtg ctttactcca tgaactgtct aatgacgggtg ctcataagca gtttgatcac  
840  
tacctcgaag agctcatctt gcccatcatg gtgggctgtg ccaagaaagg agaacgagag  
900  
tgccacattg ttgtgctgac ggatgaggat tctgtggact gggatgaaga ccaccctcca  
960  
ccaatggggg aggaatatct ccaaattctt tatagctcca agctctacag attcttcaaa  
1020  
tatattgaga atagggatgt tgcaaaaaca gtgttaaagg aacggggcct aaaaaacatt  
1080  
cgcattggaa ttgaagggtta ccctacctgt aaagaaaaaa ttaagagaag gcctggcggc  
1140  
cgttctgaag tcattctataa ttatgtataa cgtcccttca tccagatgtc atgggaaaag  
1200  
gaagaaggga agagtcgcca tgtggatttc cagtgtgttc gaagcaaatc cctcacgaat  
1260  
ctggtagctg ctggagatga tgtcttgag gaccaggaga tattaatgca tcaccaccc  
1320  
caagtggatg aactt  
1335

<210> 4674

<211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 4674

```

Met Asn Val His Arg Gly Ser Asp Ser Asp Arg Leu Leu Arg Gln Glu
 1          5          10          15
Ala Ser Cys Leu Val Asp Asp Thr Leu Ala Val Ala Gln Glu Lys Glu
 20          25          30
Ala Asn Ser Leu Ala Ser Ser Gly Pro His Asn Leu Thr Tyr Pro Leu
 35          40          45
Gly Pro Arg Asn Glu Asp Leu Ser Leu Asp Tyr Ala Ser Gln Pro Ala
 50          55          60
Asn Leu Gln Phe Pro His Ile Met Pro Leu Ala Glu Asp Ile Lys Gly
 65          70          75          80
Ser Cys Phe Gln Ser Gly Asn Lys Arg Asn His Glu Pro Phe Ile Ala
 85          90          95
Pro Glu Arg Phe Gly Asn Ser Ser Val Gly Phe Gly Ser Asn Ser His
 100         105         110
Ser Gln Ala Pro Glu Lys Val Thr Leu Leu Val Asp Gly Thr Arg Phe
 115         120         125
Val Val Asn Pro Gln Ile Phe Thr Ala His Pro Asp Thr Met Leu Gly
 130         135         140
Arg Met Phe Gly Pro Gly Arg Glu Tyr Asn Phe Thr Arg Pro Asn Glu
 145         150         155         160
Lys Gly Glu Tyr Glu Ile Ala Glu Gly Ile Ser Ala Thr Val Phe Arg
 165         170         175
Thr Val Leu Asp Tyr Tyr Lys Thr Gly Ile Ile Asn Cys Pro Asp Gly
 180         185         190
Ile Ser Ile Pro Asp Leu Arg Asp Thr Cys Asp Tyr Leu Cys Ile Asn
 195         200         205
Phe Asp Phe Asn Thr Ile Arg Cys Gln Asp Leu Ser Ala Leu Leu His
 210         215         220
Glu Leu Ser Asn Asp Gly Ala His Lys Gln Phe Asp His Tyr Leu Glu
 225         230         235         240
Glu Leu Ile Leu Pro Ile Met Val Gly Cys Ala Lys Lys Gly Glu Arg
 245         250         255
Glu Cys His Ile Val Val Leu Thr Asp Glu Asp Ser Val Asp Trp Asp
 260         265         270
Glu Asp His Pro Pro Pro Met Gly Glu Glu Tyr Ser Gln Ile Leu Tyr
 275         280         285
Ser Ser Lys Leu Tyr Arg Phe Phe Lys Tyr Ile Glu Asn Arg Asp Val
 290         295         300
Ala Lys Thr Val Leu Lys Glu Arg Gly Leu Lys Asn Ile Arg Ile Gly
 305         310         315         320
Ile Glu Gly Tyr Pro Thr Cys Lys Glu Lys Ile Lys Arg Arg Pro Gly
 325         330         335
Gly Arg Ser Glu Val Ile Tyr Asn Tyr Val Gln Arg Pro Phe Ile Gln
 340         345         350
Met Ser Trp Glu Lys Glu Glu Gly Lys Ser Arg His Val Asp Phe Gln
 355         360         365
Cys Val Arg Ser Lys Ser Leu Thr Asn Leu Val Ala Ala Gly Asp Asp
 370         375         380
Val Leu Glu Asp Gln Glu Ile Leu Met His His Pro Pro Gln Val Asp

```



385  
Glu Leu

390

395

400

<210> 4675  
<211> 2868  
<212> DNA  
<213> Homo sapiens

<400> 4675  
ngaattcccc ggttgattct tcggcccat atgcccac aacagcaca agtgccccca  
60  
gcctctgagt ctctttctc tgaggaagag agcagagagt tcaaccccag cagctctggg  
120  
cgctcagcga ggaccgttag cagcaacagc ttctgctcag atgacacagg ctgtcctagc  
180  
agccagtcag tgtctcctgt gaagacaccc tcagatgctg gaaacagccc cattggcttt  
240  
tgccctggaa gtgatgaagg cttcaccaga aagaaatgca cgattggaat ggttggtgaa  
300  
ggaagcattc agtcctctcg atataagaag gaatcaaagt caggccttgt gaaaccaggt  
360  
agtgaagctg attttagctc ctgcagcagc acaggcagca tttccgctcc tgaggctcat  
420  
atgtcgactg cgggaagcaa ggggtcttct tcttcacgca atcgaggctc tcatgggcgg  
480  
agtaatggag cttcgtcaca caagcctggc agcagctcat catccccgcg ggaaaaggac  
540  
cttctgtcca tgctgtgcag gaatcagctg agccctgtca atatccatcc cagttatgca  
600  
ccttcttccc caagcagtag caactcaggc tcctacaaag gaagcgactg tagccccatc  
660  
atgaggcggt ctggaaggta catgtcttgc ggtgaaaatc atgggtgtcag acccccaaac  
720  
ccagagcagt atttgactcc actgcagcag aaagaggtga cagtgcagaca cctcaaaacc  
780  
aagctgaagg aatctgagcg ccgactccat gaaagggaaa gtgaaatcgt ggagcttaag  
840  
tcccagctgg cccgcatgag agaggactgg attgaggagg agtgtcaccg ggtagaggcc  
900  
cagttggcac tcaaagaagc caggaaagag attaaacagc tcaaacaggt catcgaaacc  
960  
atgcggagca gcttggtgta taaagataaa ggcattcaga aatattttgt ggacataaac  
1020  
atccaaaaca agaagctgga gtctctcctt cagagcatgg agatggcaca cagtggctct  
1080  
ctgagggacg aactgtgcct agactttcca tgtgattccc cagagaagag cttaacctc  
1140  
aaccctctc ttgacacaat ggcagatggg ttatctctgg aagagcaggt cacgggggaa  
1200  
ggggctgaca gggagctact ggtaggagat agcatagcca acagcacaga tttgttcgat  
1260  
gagatagtga cagccaccac cacagaatct ggtgacctgg agcttgtgca ttccacctt  
1320

ggggctaacg tcctggagct gctgcccata gtcattgggtc aggaggaggg cagtgtggtg  
1380  
gtggagcgag ccgttcagac cgacgtggtg ccctacagcc cagccatctc agagctcatt  
1440  
cagagtgtgc tgcagaagct ccaggacccc tgccctcga gcttggcgtc ccctgatgag  
1500  
tctgaaccag actcgatgga gagcttccca gagtccctct ctgccttagt ggttgattta  
1560  
actccaagaa atccaaactc agccatcctt ttgtctcccg tggagacccc ctacngccaa  
1620  
tgtggatgca gaagtcatg caaacgcct catgagagag ctggannttt tgcagcctgc  
1680  
gtggaagaga ggttggatgg tgtcatccca ctggctcgcg ggggcgtcgt gaggcagtac  
1740  
tggagcagca gcttctggt ggatctctcg gctgtggctg ccccggtggt cccacggtt  
1800  
ctgtgggcat tcagtactca gagaggggga acggatcctg tgtataacat cggggccttg  
1860  
ctcaggggct gttgcgtggt tgccctgcat tcgctccgcc gcaccgcctt ccgtatcaaa  
1920  
acctaaatag aagtgttgt taccgtgtgc caatgtgtcc catgtgggtt gtgccaggta  
1980  
gagaaacagg aagtcaatca tctgtgacag tctctattct gtcgttttgc tccttggtat  
2040  
ttgatttga ctatatttag ttgaagcctg ttcactgttt aaaaccggag gtatcttcaa  
2100  
aggcatggag acctggttcc agtaaattgc ccaccagtgg ggtatagaaa gcatgctcat  
2160  
gacctgccg tgcgtctga ggtaccggt cttatcctag tggttcagga agagaaaacg  
2220  
cagtttgac tttcaagaca gcttctctaa ggctggcatg ttatctcctt gctttgcttt  
2280  
ttgccgtttt aaaatgtgta attgttccag cattccaatg gtcttgtgca tagcagggga  
2340  
ctgtaaccaa aaataaacat gtatttgtgt aattgggttg aagaagtctt gaatagctct  
2400  
ttactgtctt acctgggggt gataagattt gagtgtttgc aattttttac taaatgtagc  
2460  
tccaaagtct taaatggctt gtttgttctt aaactgttaa ttgatgaaac tgtgcataag  
2520  
tttacaatgt actaacttat ttgtcttatt atatatagtg ttttattgga aattgtaacc  
2580  
acacacttca gcatgatgaa aataaagatt agtgtttcca tttaaataaa tgttttatcc  
2640  
tcccataaaa taataattat ttctgtgatt ttacttctat gtataagaaa gacaatgaat  
2700  
agcagatctt acatctttat caataggggg tctgtaaaaa ttgaattaaa ttaggaagag  
2760  
ggaaaaagag ttagttatta aagaaaatga agatttctta cccttactta aaaagcatca  
2820  
tttctgaata aaagtagatt tgtttacttt taaaaaaaaa aaaaaaaaaa  
2868

&lt;210&gt; 4676

&lt;211&gt; 641

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4676

Xaa Ile Pro Arg Leu Ile Leu Arg Pro His Met Pro Gln Gln Gln His  
 1 5 10 15  
 Lys Val Ser Pro Ala Ser Glu Ser Pro Phe Ser Glu Glu Glu Ser Arg  
 20 25 30  
 Glu Phe Asn Pro Ser Ser Ser Gly Arg Ser Ala Arg Thr Val Ser Ser  
 35 40 45  
 Asn Ser Phe Cys Ser Asp Asp Thr Gly Cys Pro Ser Ser Gln Ser Val  
 50 55 60  
 Ser Pro Val Lys Thr Pro Ser Asp Ala Gly Asn Ser Pro Ile Gly Phe  
 65 70 75 80  
 Cys Pro Gly Ser Asp Glu Gly Phe Thr Arg Lys Lys Cys Thr Ile Gly  
 85 90 95  
 Met Val Gly Glu Gly Ser Ile Gln Ser Ser Arg Tyr Lys Lys Glu Ser  
 100 105 110  
 Lys Ser Gly Leu Val Lys Pro Gly Ser Glu Ala Asp Phe Ser Ser Ser  
 115 120 125  
 Ser Ser Thr Gly Ser Ile Ser Ala Pro Glu Val His Met Ser Thr Ala  
 130 135 140  
 Gly Ser Lys Arg Ser Ser Ser Arg Asn Arg Gly Pro His Gly Arg  
 145 150 155 160  
 Ser Asn Gly Ala Ser Ser His Lys Pro Gly Ser Ser Ser Ser Pro  
 165 170 175  
 Arg Glu Lys Asp Leu Leu Ser Met Leu Cys Arg Asn Gln Leu Ser Pro  
 180 185 190  
 Val Asn Ile His Pro Ser Tyr Ala Pro Ser Ser Pro Ser Ser Ser Asn  
 195 200 205  
 Ser Gly Ser Tyr Lys Gly Ser Asp Cys Ser Pro Ile Met Arg Arg Ser  
 210 215 220  
 Gly Arg Tyr Met Ser Cys Gly Glu Asn His Gly Val Arg Pro Pro Asn  
 225 230 235 240  
 Pro Glu Gln Tyr Leu Thr Pro Leu Gln Gln Lys Glu Val Thr Val Arg  
 245 250 255  
 His Leu Lys Thr Lys Leu Lys Glu Ser Glu Arg Arg Leu His Glu Arg  
 260 265 270  
 Glu Ser Glu Ile Val Glu Leu Lys Ser Gln Leu Ala Arg Met Arg Glu  
 275 280 285  
 Asp Trp Ile Glu Glu Glu Cys His Arg Val Glu Ala Gln Leu Ala Leu  
 290 295 300  
 Lys Glu Ala Arg Lys Glu Ile Lys Gln Leu Lys Gln Val Ile Glu Thr  
 305 310 315 320  
 Met Arg Ser Ser Leu Ala Asp Lys Asp Lys Gly Ile Gln Lys Tyr Phe  
 325 330 335  
 Val Asp Ile Asn Ile Gln Asn Lys Lys Leu Glu Ser Leu Leu Gln Ser  
 340 345 350  
 Met Glu Met Ala His Ser Gly Ser Leu Arg Asp Glu Leu Cys Leu Asp  
 355 360 365  
 Phe Pro Cys Asp Ser Pro Glu Lys Ser Leu Thr Leu Asn Pro Pro Leu  
 370 375 380  
 Asp Thr Met Ala Asp Gly Leu Ser Leu Glu Glu Gln Val Thr Gly Glu

```

385          390          395          400
Gly Ala Asp Arg Glu Leu Leu Val Gly Asp Ser Ile Ala Asn Ser Thr
          405          410          415
Asp Leu Phe Asp Glu Ile Val Thr Ala Thr Thr Thr Glu Ser Gly Asp
          420          425          430
Leu Glu Leu Val His Ser Thr Pro Gly Ala Asn Val Leu Glu Leu Leu
          435          440          445
Pro Ile Val Met Gly Gln Glu Gly Ser Val Val Val Glu Arg Ala
          450          455          460
Val Gln Thr Asp Val Val Pro Tyr Ser Pro Ala Ile Ser Glu Leu Ile
465          470          475          480
Gln Ser Val Leu Gln Lys Leu Gln Asp Pro Cys Pro Ser Ser Leu Ala
          485          490          495
Ser Pro Asp Glu Ser Glu Pro Asp Ser Met Glu Ser Phe Pro Glu Ser
          500          505          510
Leu Ser Ala Leu Val Val Asp Leu Thr Pro Arg Asn Pro Asn Ser Ala
          515          520          525
Ile Leu Leu Ser Pro Val Glu Thr Pro Tyr Xaa Gln Cys Gly Cys Arg
          530          535          540
Ser Ser Cys Lys Pro Pro His Glu Arg Ala Gly Xaa Phe Ala Ala Cys
545          550          555          560
Val Glu Glu Arg Leu Asp Gly Val Ile Pro Leu Ala Arg Gly Gly Val
          565          570          575
Val Arg Gln Tyr Trp Ser Ser Ser Phe Leu Val Asp Leu Leu Ala Val
          580          585          590
Ala Ala Pro Val Val Pro Thr Val Leu Trp Ala Phe Ser Thr Gln Arg
          595          600          605
Gly Gly Thr Asp Pro Val Tyr Asn Ile Gly Ala Leu Leu Arg Gly Cys
          610          615          620
Cys Val Val Ala Leu His Ser Leu Arg Arg Thr Ala Phe Arg Ile Lys
625          630          635          640
Thr

```

&lt;210&gt; 4677

&lt;211&gt; 940

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4677

```

nngcggctga gacagtgaag ttctctagag caaacttctc aggaggccgc gcactccggg
60
ttgggttcac acgccgcgtg atctgtccct ccgagaaggc ccgcctcact gtcttcttcc
120
tagaagctga ggttgggggtt cgtactggga agaaatctgg catcgagttc aattccgcca
180
ataactgggc aagcatggct ttgttctcct tgatgttcat ggtccttttc agtaaagcat
240
ctgaactctc ctggctctca tcccagagat catctcaga ctcagaggta gaatcttccc
300
tttgtatcac ctgtctacac tctttctttc tttcaagaat tggttttttc tcattctgta
360
aggtcgccta gaaaacaact gctcgaaga actgttttta tctggtttgt tggccagctt
420

```

cttgggtgggg aactgaaagg ctactcgaag accaatacta cttcttctag acctgcttct  
480  
tctaggggta gcttatcttc ttcttcatct tcctcttctc cgctcaccaa agatgctttg  
540  
ccatcatcac tcaaactctga ctccacgacc attacttctg ggtagtctt tccattcaga  
600  
tcactctgcg taaatcctgc aaaatcctca gtctctgagt cagtgtcctc tataaaaatt  
660  
cttcttagct cttctgtgaa gtatttgga tgaaagcgca catcctgctg tttcctgac  
720  
tctagtgagt caaaactatc gcagctctcc tctgacgaga gggtttccat gggaacatca  
780  
tctcggaagc caacaaactc ttcacatca ctgggggcgt taaagatgtc agccacttct  
840  
ttagggatct ggtagcgagt cgccaactcc attcttctta accgggctcc agtctctctc  
900  
cagcacgcgg ccacgggagc ccggactcac cacggcccgg  
940

```
<210> 4678
<211> 133
<212> PRT
<213> Homo sapiens
```

```

<400> 4678
Asn Leu Pro Phe Val Ser Pro Val Tyr Thr Leu Ser Phe Phe Gln Glu
 1          5          10          15
Leu Phe Phe Ser His Ser Val Arg Cys Ala Arg Lys Gln Leu Leu Gly
          20          25          30
Arg Thr Val Phe Ile Trp Phe Val Gly Gln Leu Leu Gly Gly Glu Leu
          35          40          45
Lys Gly Tyr Ser Lys Thr Asn Thr Thr Ser Ser Arg Pro Ala Ser Ser
          50          55          60
Arg Gly Ser Leu Ser Ser Ser Ser Ser Ser Ser Ser Leu Thr Lys
65          70          75          80
Asp Ala Leu Pro Ser Ser Leu Lys Ser Asp Ser Thr Thr Ile Thr Ser
          85          90          95
Gly Leu Val Phe Pro Phe Arg Ser Leu Cys Val Asn Pro Ala Lys Ser
          100          105          110
Ser Val Ser Glu Ser Val Ser Ser Ile Lys Ile Leu Leu Ser Ser Ser
          115          120          125
Val Lys Tyr Leu Glu
          130

```

```
<210> 4679
<211> 2284
<212> DNA
<213> Homo sapiens
```

```
<400> 4679
tttttttttt tttttttttt tttttttttt ttttaccaca aaaacacttg tagagcctgt
60
ttattgcata actagcaggc acaaattcca aaacgatttt acaacactta aagggcacaa
120
```

taattacagg aatagaatgt acaataaaaa gtacagaata atgagtgaca gggatcaaac  
180  
acgttggaaat aaaaggcatc tcagttttcc tatgcagcat tttcttttct aggaacacgt  
240  
taccttcaac caggacaagg aaagaaagaa aactatacta ttggaaagct catgggtgcc  
300  
attgaggaca aaaacaggcg agttttgctc ttggttctgc aactgaatca cttgagaagc  
360  
cgtgcacagc tcccagattg tgcgtttaga attctgatta catgaaatgc tgtgtttgat  
420  
ctttgggccc aattcactgt tctttggcaa ataagaacta tttgcattcc aaggcagatg  
480  
acgatttctg tgaaaggagc ttagaggtag agctgtttcc ttctgttcag tcaagtgcc  
540  
gtttcataaa gtgcacctct gccctatcag ctttggggga aggttggcat atggggagga  
600  
agggatcatt gagaatacag ggtgaaaaag aacgacgtta ctgaaggtag acattgctag  
660  
tgcaaggtag ggaatccatg tgcaaaaggc ggctggaaca aatgttcaga taaggtagcga  
720  
tttgccaaca ggagcagaga actctgacac cagatctcag atgaggccaa ggaaatgcgc  
780  
ggggcacata cagagaggac gacctgcagc cctccaatgg ccacgtcatt ccaccgggga  
840  
acttgtttgg agttttggca ccgtgggcta accgagcact cttctgacat attcttaca  
900  
ctggaaatgc tttgttggtc cccatgttcc ttgactttct ctagggccat aaaggcaaca  
960  
tcttctattg caggctctca aacattccaa ggaaaacact gcttcacctc ctgcagacag  
1020  
ctcatttccc agaagcctct acagaagccc gtcctcctg ggacagcagg ggcaggggtt  
1080  
tgcaagataa aggagggtag gctaaggaca tgaagcctgc agaaaaggct atcagatggc  
1140  
gcctgaactt aagggtgggag gcccccttct agaaggcatc ccgggagcat ccaacagcaa  
1200  
tgtggcactt agggctgtgg gacaaacaag tggaagagtc ttttggagac gtggaccctt  
1260  
ttcccatgct actcacagtg aagcaaaatg cgacaaaagc atccacacac ggtgacttag  
1320  
taaagcaagc accgtcgggg tgctactttc atgacagcat atggtcaagc tataaagggtg  
1380  
tgcacgac agtcctgtga aaatagaagc ttagttatta gcatgtattg aggcaacttg  
1440  
tactttgatt cttgtgtctt cttcacatgt gtgaatgact gctatgggac agaacatatg  
1500  
gttaaaaaa ggagcgacag caacataaca cacaggggtg gccggctcca ttacgggtaa  
1560  
gactcagagg ctgctccagg tgtgtccggg gaagccaggc cctcacactg cacagcttac  
1620  
agggccctgg ggtgggggct gtgagctggc agcctagagg acacagctca cctgcacatg  
1680  
gtctctgaaa gtgttcaaat tgggtgccaa catttataaa tggagagatg gcacaaaaa  
1740

acatctaggt ttcttgtctc ttgaaaaatc aaagctgtgg ccaccctagg cccacttttc  
 1800  
 cacatggcaa caggcgtgga gctgggggct actgccccta ctgtgtaggc ggtgggctcc  
 1860  
 ccatagtctc ctctgcctg ctgccgtgta cctggctccc ttcactcacc caccatcaccg  
 1920  
 gccctaggcc agggctctgaa ccacacacac agaatggctg cagtaagcag gaacgggaag  
 1980  
 agctttcaca ttcagaacaa gaaggggctt ttgagtaact aaaaaacaat ctgagcatgt  
 2040  
 tccagcactt caaccttact ctttcagagc tttggggtag caggcagcca gctagagcac  
 2100  
 actctctaag gaactcttga aagttgatgt ctaattttta agtactcatg aggtgatgga  
 2160  
 ggagaaacta actcagatga ctgcgatacg atacatcttt ccttataaga agtccttaaa  
 2220  
 gatgatgaaa aatgtgaagc aactcatgtg agaaagctgt aagtggtcag agaagcaagc  
 2280  
 tgac  
 2284

<210> 4680

<211> 112

<212> PRT

<213> Homo sapiens

<400> 4680

Met	Arg	Gly	Ala	His	Thr	Glu	Arg	Thr	Thr	Cys	Ser	Pro	Pro	Met	Ala
1				5					10					15	
Thr	Ser	Phe	His	Arg	Gly	Thr	Cys	Leu	Glu	Phe	Trp	His	Arg	Gly	Leu
			20					25					30		
Thr	Glu	His	Ser	Ser	Asp	Ile	Phe	Leu	Gln	Leu	Glu	Met	Leu	Cys	Trp
		35					40					45			
Ser	Pro	Cys	Ser	Leu	Thr	Phe	Ser	Arg	Ala	Ile	Lys	Ala	Thr	Ser	Ser
		50					55				60				
Ile	Ala	Gly	Pro	Gln	Thr	Phe	Gln	Gly	Lys	His	Cys	Phe	Thr	Ser	Cys
65					70					75				80	
Arg	Gln	Leu	Ile	Ser	Gln	Lys	Pro	Leu	Gln	Lys	Pro	Val	Leu	Pro	Gly
			85						90					95	
Thr	Ala	Gly	Ala	Gly	Val	Cys	Lys	Ile	Lys	Glu	Gly	Gln	Leu	Arg	Thr
		100						105					110		

<210> 4681

<211> 906

<212> DNA

<213> Homo sapiens

<400> 4681

tttttttttt tttttttttt gcaaattggt tttttttttt ttttttttcc acatttatat  
 60  
 cacaaggtgt ccacttactg gaccaaatag caaagttgct cccttctgcg tcctgagaac  
 120  
 acagaagtct aggtactgta cattcactaa ggctccttgt ttttgcaaat cgcgtttatg  
 180

acaaataacc ataaggcaaa cgaatctaaa ggaatggtta tgagtgtttc cagcgtacag  
 240  
 acaggtcttc cccctcgccc cacagtacag cataaaacca gtagcaccca caataacttt  
 300  
 tgtgttgttt tggggggact ctagaaaggt gaagttttct agatgtgtac aggaaggga  
 360  
 aaaagaaaag ggaggaagaa aggaaaggtt tttttgtctg gtggtctgat ggaagaggaa  
 420  
 ttgttttaaaa taaacatgag aaaacttaaa tttttgcagc atttctttta aaactgggtt  
 480  
 ataactgaaa ccagatataa acaggtggct gcccatggag tgtgggtcac actggctggc  
 540  
 cagctggccc gcctgcccaa tgccagtggc tcaccacagc tgagaagctt ctggcacatg  
 600  
 acagacaaca ctggcctgac agtggctggg tagggagcaa acagaggcag tggcatggcc  
 660  
 cactgtctca agacactcag ggccaaatta aagaacagaa aatgcaagag agatgagatg  
 720  
 cgtgcttctg ttgctgtgtt aaaggtgacc tctccacag gttttctgtg cctgcctgca  
 780  
 actgaggccc cagctttcag gtgctggaaa gtgtccgcac ctctttgggg gtgagggact  
 840  
 aacgcttttt atagctggtt tgctatagag ttctgaactc actttgccgt ccttcctcc  
 900  
 acgcgt  
 906

<210> 4682

<211> 153

<212> PRT

<213> Homo sapiens

<400> 4682

Met	Gly	Ser	His	Leu	Phe	Ile	Ser	Gly	Phe	Ser	Tyr	Asn	Pro	Val	Phe
1				5					10					15	
Lys	Glu	Met	Leu	Gln	Lys	Phe	Lys	Phe	Ser	His	Val	Tyr	Phe	Lys	Gln
			20					25					30		
Phe	Leu	Phe	His	Gln	Thr	Thr	Arg	Gln	Lys	Asn	Leu	Ser	Phe	Leu	Pro
			35				40					45			
Pro	Phe	Ser	Phe	Phe	Pro	Ser	Cys	Thr	His	Leu	Glu	Asn	Phe	Thr	Phe
			50			55					60				
Leu	Glu	Ser	Pro	Gln	Asn	Asn	Thr	Lys	Val	Ile	Val	Gly	Ala	Thr	Gly
65				70						75				80	
Phe	Met	Leu	Tyr	Cys	Gly	Ala	Arg	Gly	Lys	Thr	Cys	Leu	Tyr	Ala	Gly
			85					90						95	
Asn	Thr	His	Asn	His	Ser	Phe	Arg	Phe	Val	Cys	Leu	Met	Val	Ile	Cys
			100				105						110		
His	Lys	Arg	Asp	Leu	Gln	Lys	Gln	Gly	Ala	Leu	Val	Asn	Val	Gln	Tyr
		115				120						125			
Leu	Asp	Phe	Cys	Val	Leu	Arg	Thr	Gln	Lys	Gly	Ala	Thr	Leu	Leu	Phe
	130					135					140				
Gly	Pro	Val	Ser	Gly	His	Leu	Val	Ile							
145					150										



&lt;210&gt; 4683

&lt;211&gt; 3246

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4683

nctcctgcct ccctgcaggg agctgcttat gggacaccgc ttctgcgcg gcctcttaac  
60  
gctgctgctg ccgccgccac ccctgtatac ccggcaccgc atgctcggtc cagagtccgt  
120  
cccgccccc aaacgatccc gcagcaaact catggcaccg cccgaatcgg gacgcacaat  
180  
ggcaccttcc actgcgacga ggcactggca tgcgcactgc ttgcctcct gccggagtac  
240  
cgggatgcag agattgtgcg gacccgggat cccgaaaaac tcgcttcctg tgacatcgtg  
300  
gtggacgtgg ggggcgagta cgaccctcgg agacaccgat atgaccatca ccagaggtct  
360  
ttcacagaga ccatgagctc cctgtccctt ggggaagcgt ggcagaccaa gctgagcagt  
420  
gcgggactca tctatctgca cttcggggcac aagctgctgg cccagttgct gggcactagt  
480  
gaagaggaca gcatggtggg caccctctat gacaagatgt atgagaactt tgtggaggag  
540  
gtggatgctg tggacaatgg gatctccag tgggcagagg gggagcctcg atatgcactg  
600  
accactacc tgagtgcacg agttgctcga cttaatccta cctggaacca ccccgaccaa  
660  
gacactgagg cagggttcaa gcgtgcaatg gatctggttc aagaggagtt tctgcagaga  
720  
ttagatttct accaacacag ctggctgcc gcccgggcct tgggtgaaga ggccttgcc  
780  
cagcgattcc aggtggaccc aagtggagag attgtggaac tggcgaaagg tgcattgtccc  
840  
tggaaggagc atctctacca cctggaatct gggctgtccc ctccagtggc catcttcttt  
900  
gttatctaca ctgaccaggc tggacagtgg cgaatacagt gtgtgccaa ggagccccac  
960  
tcattccaaa gccggctgcc cctgccagag ccatggcggg gtcttcggga cgaggccctg  
1020  
gaccaggtca gtgggatccc tggctgcac ttctgcatg caagcggctt cattggcggg  
1080  
caccgcaccc gagagggtgc cttgagcatg gcccgtgcc ccttgggcca gcgctcatac  
1140  
ctcccacaaa tctcctagtc taataaaacc ttccatctca tactgacca gtccttgact  
1200  
tattcttgcc ctacaccatt ccagaaactt gtgaaaagt aaacaactat ttatgtgtaa  
1260  
gacctgtgc tagatatatt ttcttcacag taacttctca gccttgcttc ccaaactatt  
1320  
tgaaaccaca gtttctagga ttaaataacg tgaccaaatt cacaagtggc taaaaagtga  
1380  
cagaacaggg ccttaaccca aagtccatgc tttttccccc tactgtacce cactgcaact  
1440

ccctggaaaa gacagactgg taactgagtg gaaaacaaaa ggaaaactta tttattctta  
1500  
gaggtgggaa tgtggggagt ggggcagAAC aggtgggtggc cctgggagag ggtcccaagg  
1560  
ggcagagggt ggggatgtct cagtaaagag gggcaggtca tgaatagagc ctccaccccc  
1620  
agcaggggggt tcctgggccc gcccaagcac tgggctaaaa cgtggaaact gggcattgac  
1680  
aaagtacagc gggatgtggg caattcggcc tgtggaccag cccacactga gcagggcccc  
1740  
tttgttgaag gaaggatgga aagtgatgag ctggggctgg gtcctgggt cccctggat  
1800  
aatgccacag ggaaggagct caaacacagg gctgtttcga gtgcgaaaaa ggaggatgac  
1860  
tggtttacca tcctgtaccc ttggctttcc tttcataagc acagccagac gttccccact  
1920  
ggggtcccag accatggagt gagcctctcc cccaagcctc tcctcaccat ctggtgtctg  
1980  
tattgttgtc tcagacagat ctgccacaat cgttgctgac tttgcacctc caacgcaccc  
2040  
ctttccctca ccacaacgtt ctggaaaaga caggagtaa atcagtggct ctccaatac  
2100  
agtgaacagc agtcggctgc catctgggct ccagcagcca gtctgacagc gccctgatag  
2160  
agtaggccac ctctcacaag tccacatctg ggcctcccag actcgaaaga cagctgaagg  
2220  
agtggtagcc aggattttgc tgccgtctgg ggaccagagc aggttgggtca cccacctcc  
2280  
tcgaaaccag ggaaggggga cacaggtctc tgttgagaca tcccataccg ggatagcagc  
2340  
atccacgggt gaagctgaga gcagccgccc cccactgggg gcccaggcca agctggtaac  
2400  
agggtgatgc ccagggtgag acagcacttg ggcacagcca gaagagggtc gggtagacaa  
2460  
ggaggtaggg tccagggtcc agataagaat gcagctctgg caggccacag ccaagacaga  
2520  
ggcactaagg ggcttcagg ccagagacgc cacatttcgc tgcagccggt gcttcaggga  
2580  
ggggactatg gtgctgctgg cattatacac acggactgag tcatctagca gggccactgc  
2640  
aaacttggtg gtgtgggggt ggcatgcaaa gacacgcaag cagcagctgg accaatttgt  
2700  
gacttgggca aattcagcga tcagatcttc gtccttgaga gacagatggg ggaacaggga  
2760  
cccatggagg gaagaggccc atcgacagag tgccagggcc cagccggatg ccgtcttcac  
2820  
ccactcaaac acctcttctt ctgagtttgc aatttcattt agcaccctaa aaaggccac  
2880  
atcacgcaa atgttgatgc atctcttcca cacttgctcc cggatgatga tgaaggcagt  
2940  
tcttggtcca tgggtccagcc ttccaggggt ctttagggga tcctttgtca gttgtaggac  
3000  
aggaagattg atccactggc cccggaagtc ggggggcggg ctctcatagc tactgcccgt  
3060

caccagctcg ttattgtgct catatagggg gacttgaccc cgaggcggg gaggagggaa  
 3120  
 caaccccaga gagcacatct tgccgggttcg caggacgtct gcagtcggca aactcctggc  
 3180  
 cggaacggca cagaccgcac tcccgcgaact cgggtcccg gctagattcg tatgcgggacg  
 3240  
 ggtacc  
 3246

<210> 4684

<211> 385

<212> PRT

<213> Homo sapiens

<400> 4684

Xaa	Pro	Ala	Ser	Leu	Gln	Gly	Ala	Ala	Tyr	Gly	Thr	Pro	Leu	Pro	Ala
1				5					10					15	
Arg	Pro	Leu	Asn	Ala	Ala	Ala	Ala	Ala	Ala	Thr	Pro	Val	Tyr	Pro	Ala
			20				25						30		
Pro	His	Ala	Arg	Ser	Arg	Val	Arg	Pro	Ala	Pro	Lys	Thr	Ile	Pro	Gln
		35					40					45			
Gln	Thr	His	Gly	Thr	Ala	Arg	Ile	Gly	Thr	His	Asn	Gly	Thr	Phe	His
		50				55					60				
Cys	Asp	Glu	Ala	Leu	Ala	Cys	Ala	Leu	Leu	Arg	Leu	Leu	Pro	Glu	Tyr
65				70					75					80	
Arg	Asp	Ala	Glu	Ile	Val	Arg	Thr	Arg	Asp	Pro	Glu	Lys	Leu	Ala	Ser
				85					90					95	
Cys	Asp	Ile	Val	Val	Asp	Val	Gly	Gly	Glu	Tyr	Asp	Pro	Arg	Arg	His
			100					105					110		
Arg	Tyr	Asp	His	His	Gln	Arg	Ser	Phe	Thr	Glu	Thr	Met	Ser	Ser	Leu
			115				120					125			
Ser	Pro	Gly	Lys	Pro	Trp	Gln	Thr	Lys	Leu	Ser	Ser	Ala	Gly	Leu	Ile
			130			135						140			
Tyr	Leu	His	Phe	Gly	His	Lys	Leu	Leu	Ala	Gln	Leu	Leu	Gly	Thr	Ser
145					150					155					160
Glu	Glu	Asp	Ser	Met	Val	Gly	Thr	Leu	Tyr	Asp	Lys	Met	Tyr	Glu	Asn
				165					170					175	
Phe	Val	Glu	Glu	Val	Asp	Ala	Val	Asp	Asn	Gly	Ile	Ser	Gln	Trp	Ala
			180					185					190		
Glu	Gly	Glu	Pro	Arg	Tyr	Ala	Leu	Thr	Thr	Thr	Leu	Ser	Ala	Arg	Val
		195					200					205			
Ala	Arg	Leu	Asn	Pro	Thr	Trp	Asn	His	Pro	Asp	Gln	Asp	Thr	Glu	Ala
		210				215						220			
Gly	Phe	Lys	Arg	Ala	Met	Asp	Leu	Val	Gln	Glu	Glu	Phe	Leu	Gln	Arg
225				230						235					240
Leu	Asp	Phe	Tyr	Gln	His	Ser	Trp	Leu	Pro	Ala	Arg	Ala	Leu	Val	Glu
				245					250					255	
Glu	Ala	Leu	Ala	Gln	Arg	Phe	Gln	Val	Asp	Pro	Ser	Gly	Glu	Ile	Val
			260				265						270		
Glu	Leu	Ala	Lys	Gly	Ala	Cys	Pro	Trp	Lys	Glu	His	Leu	Tyr	His	Leu
		275					280					285			
Glu	Ser	Gly	Leu	Ser	Pro	Pro	Val	Ala	Ile	Phe	Phe	Val	Ile	Tyr	Thr
		290				295						300			
Asp	Gln	Ala	Gly	Gln	Trp	Arg	Ile	Gln	Cys	Val	Pro	Lys	Glu	Pro	His

[illegible]

```
<210> 4685
<211> 618
<212> DNA
<213> Homo sapiens
```

```
<400> 4685
nntgtgatgg gcgtgcaggt ggtgggcagg gcctttgcac gggccttgcg gcaggagttt
60
gcagcctcta cccctaataa aggaaccac tcctggagaa gaggcagctc ctagccacct
120
gtccctgtgt ctctatcct gtgctggtgg caggggtgag ccaccaactc ggaaggccca
180
gggtgaagtg tgggctgctg aggactgagc gatcaccac atgtccacac agccagccgg
240
gccgcagctg atgcccagg acgcgctgga caccggtctg cagccgcttc caacctctcc
300
ggcctcagcc tccaggaggc acagcagatt ctcaactgtt ccaagctgag ccctgaggag
360
gtccagaaga actatgaaca cttatttaag gtgaatgata aatccgtggg tggctccttc
420
tacctgcagt caaagtggtt ccgcgcaaag gagcgcttgg atgaggaact caaaatccag
480
gcccaggagg acagagaaaa agggcagatg ccccatatct gactgctcgg cccccccgc
540
ccaccccgcc gcctctaatt tatagcttgg taataaattt cttttctgca aaaaaaagag
600
gctggagtgt gctcgcga
618
```

```
<210> 4686
<211> 106
<212> PRT
<213> Homo sapiens
```

```

<400> 4686
Gly Leu Ser Asp His Pro His Val His Thr Ala Ser Arg Ala Ala Ala
 1             5             10             15
Asp Ala Arg Gly Arg Ala Gly His Arg Ser Ala Ala Ala Ser Asn Leu
 20             25             30
Ser Gly Leu Ser Leu Gln Glu Ala Gln Gln Ile Leu Asn Val Ser Lys
 35             40             45
Leu Ser Pro Glu Glu Val Gln Lys Asn Tyr Glu His Leu Phe Lys Val

```

```

      50              55              60
Asn Asp Lys Ser Val Gly Gly Ser Phe Tyr Leu Gln Ser Lys Val Val
65              70              75              80
Arg Ala Lys Glu Arg Leu Asp Glu Glu Leu Lys Ile Gln Ala Gln Glu
      85              90              95
Asp Arg Glu Lys Gly Gln Met Pro His Thr
      100              105

```

<210> 4687  
 <211> 309  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4687
acgcgtcggg gctgagccgg ggtccagcag ccgccgctat ggacatcccg ccgctggccg
60
gcaagatcgc ggcgctgtcg ctgagcgcgc tcccggtgtc ctacgcgctc aaccacgtct
120
cggcgtcttc gcaccccttg tgggtggcat tgatgagcgc cctaatactg ggtctgcttt
180
tcgtggcggc ctacagcttg tcccatggcg aggtctccta tgaccacttc tatgctggct
240
tcgctgtctt cgccttcacc tcgggtgggg acctcatcat cgctcttcag gaagacagct
300
atgggggggg
309

```

<210> 4688  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4688
Met Asp Ile Pro Pro Leu Ala Gly Lys Ile Ala Ala Leu Ser Leu Ser
1              5              10              15
Ala Leu Pro Val Ser Tyr Ala Leu Asn His Val Ser Ala Leu Ser His
      20              25              30
Pro Leu Trp Val Ala Leu Met Ser Ala Leu Ile Leu Gly Leu Leu Phe
      35              40              45
Val Ala Val Tyr Ser Leu Ser His Gly Glu Val Ser Tyr Asp Pro Leu
      50              55              60
Tyr Ala Gly Phe Ala Val Phe Ala Phe Thr Ser Gly Gly Asp Leu Ile
65              70              75              80
Ile Ala Leu Gln Glu Asp Ser Tyr Gly Gly
      85              90

```

<210> 4689  
 <211> 898  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4689
ncccccgct cctcgcgccg aatcgctccc ctggacggcg ctcggctggc cctgagcttg
60

```

cgctggcgct ggcggacgcc ggactgtcca ccagcatcag ccccgagga cctgatgttc  
 120  
 ctgctggaca gctcagccag cgtctctcac tacgagttct cccgggttcg ggagtttgtg  
 180  
 gggcagctgg tggctccact gcccctggca ccgngggccc tgcgtgccag tctggtgcac  
 240  
 gtgggcagtc ggccatacac cgagttcccc ttcggccagc acagctcggg tgaggctgcc  
 300  
 caggatgcgg tgcgtgcttc tgcccagcgc atgggtgaca cccacactgg cctggcgctg  
 360  
 gtctatgcca aggaacagct gtttctgaa gcatcaggtg cccggccagg ggtgccccaa  
 420  
 gtgctggtgt gggtagacaga tggcggtctc agcgaccctg tgggcccccc catgcaggag  
 480  
 ctcaaggacc tgggcgtcac cgtgttcatt gtcagcaccg gccgaggcaa cttcctggag  
 540  
 ctgtcagccg ctgcctcagc ccctgccgag aagcacctgc actttgtgga cgtggatgac  
 600  
 ctgcacatca ttgtccaaga gctgaggggc tccattctcg acgcatgag gccacagcag  
 660  
 ctccatgcca cggagatcac gtccagcggc ttccgcctgg cctggccacc cctgctgacc  
 720  
 gcagactcgg gctactatgt gctggagctg gtgccagcgc cccagccggg ggctgcaaga  
 780  
 cgccagcagc tgccagggaa cgccacggac tggatctggg ccggcctcga cccggacacg  
 840  
 gactacgacg tggcgctagt gctgagtcc aacgtgcgcc tcctgaggcc ccagatct  
 898

<210> 4690

<211> 299

<212> PRT

<213> Homo sapiens

<400> 4690

Xaa	Pro	Arg	Pro	Ser	Arg	Arg	Ile	Ala	Pro	Leu	Asp	Gly	Ala	Arg	Leu
1				5					10					15	
Ala	Leu	Ser	Leu	Arg	Trp	Arg	Trp	Arg	Thr	Pro	Asp	Cys	Pro	Pro	Ala
			20					25					30		
Ser	Ala	Pro	Glu	Asp	Leu	Met	Phe	Leu	Leu	Asp	Ser	Ser	Ala	Ser	Val
		35					40					45			
Ser	His	Tyr	Glu	Phe	Ser	Arg	Val	Arg	Glu	Phe	Val	Gly	Gln	Leu	Val
	50					55					60				
Ala	Pro	Leu	Pro	Leu	Ala	Pro	Xaa	Ala	Leu	Arg	Ala	Ser	Leu	Val	His
65					70				75					80	
Val	Gly	Ser	Arg	Pro	Tyr	Thr	Glu	Phe	Pro	Phe	Gly	Gln	His	Ser	Ser
				85					90					95	
Gly	Glu	Ala	Ala	Gln	Asp	Ala	Val	Arg	Ala	Ser	Ala	Gln	Arg	Met	Gly
			100					105					110		
Asp	Thr	His	Thr	Gly	Leu	Ala	Leu	Val	Tyr	Ala	Lys	Glu	Gln	Leu	Phe
		115				120						125			
Ala	Glu	Ala	Ser	Gly	Ala	Arg	Pro	Gly	Val	Pro	Lys	Val	Leu	Val	Trp
		130				135					140				
Val	Thr	Asp	Gly	Gly	Ser	Ser	Asp	Pro	Val	Gly	Pro	Pro	Met	Gln	Glu

145                      150                      155                      160  
 Leu Lys Asp Leu Gly Val Thr Val Phe Ile Val Ser Thr Gly Arg Gly  
                                  165                      170                      175  
 Asn Phe Leu Glu Leu Ser Ala Ala Ala Ser Ala Pro Ala Glu Lys His  
                                  180                      185                      190  
 Leu His Phe Val Asp Val Asp Asp Leu His Ile Ile Val Gln Glu Leu  
                                  195                      200                      205  
 Arg Gly Ser Ile Leu Asp Ala Met Arg Pro Gln Gln Leu His Ala Thr  
                                  210                      215                      220  
 Glu Ile Thr Ser Ser Gly Phe Arg Leu Ala Trp Pro Pro Leu Leu Thr  
 225                                   230                      235                      240  
 Ala Asp Ser Gly Tyr Tyr Val Leu Glu Leu Val Pro Ser Ala Gln Pro  
                                  245                      250                      255  
 Gly Ala Ala Arg Arg Gln Gln Leu Pro Gly Asn Ala Thr Asp Trp Ile  
                                  260                      265                      270  
 Trp Ala Gly Leu Asp Pro Asp Thr Asp Tyr Asp Val Ala Leu Val Pro  
                                  275                      280                      285  
 Glu Ser Asn Val Arg Leu Leu Arg Pro Gln Ile  
                                  290                      295

<210> 4691  
 <211> 2375  
 <212> DNA  
 <213> Homo sapiens

<400> 4691  
 ntggatctga aagccaaaat gccagatgac catgcacgaa aaattttgct ttcccgtatt  
 60  
 aataactata ctatcccaga agaagaaatt gggctcttct tatttcatgc tattaataag  
 120  
 ccaaatgctc ctatctggct catactcaat gaagctggac tatactggag agcagtagga  
 180  
 aatagcactt ttgtatttgc ctgtcttcag agggctttga atttagctcc acttcaatac  
 240  
 caagatgttc ctcttgtaaa cttggccaac cttttgattc attacggcct tcactttgat  
 300  
 gccactaagc tgctacttca agctttggcc atcaatagct ctgagcctct gacctttttg  
 360  
 agcctgggaa atgcttacct tgctctgaag aatatcagtg gggcacttga ggcctttaga  
 420  
 caggccttga aattaaccac caaatgtcca gagtgtgaaa acagcctgaa gttgatccgc  
 480  
 tgtatgcagt tttatccttt tctgtacaac atcacttctt ctgtttgcag tggtaattgt  
 540  
 catgagaaaa ccttggaaca cagccatgac aaacagaaat attttgacaa ctcacagtca  
 600  
 ctggatgctg ctgaagaaga gccctctgag agaggaacag aggaggaccc tgtattctct  
 660  
 gttgagaatt cagggaggga ctcagatgcc cttagacttg aaagtacggt ggttgaggag  
 720  
 agcaatgggt ctgatgatgat ggagaattca gatgaaacca aaatgtcaga agaaatactg  
 780  
 gctttggtgg atgaatttca acaggcatgg cctttggaag gctttggggg tgcactagag  
 840

atgaaagggc ggcgtctaga cttacaagga atacgggtgc tgaagaaagg tccccaggat  
900  
ggagtggcca gaagctcttg ctatggagac tgcagaagtg aagatgatga agcaacagaa  
960  
tggattacat tccaggtcaa acgtgtaaag aaacccaaag gagatcataa gaaaactcct  
1020  
gggaaaaaag tagaaacagg tcagatagaa aatggacatc gttaccaagc aaacctagag  
1080  
atcactggcc ccaaggtggc atctcctggg ccacaagggc tactagactg gaagaccagg  
1140  
aaagtgccat agacataatg taactggatt tcagcaaggc atttaacaga gcctcttatg  
1200  
atatccttgt gaaccagatg gagagatgtg ggcttgaagc cttcccattg cctacaggat  
1260  
aaaattcaaa cttcctagtg tgggtgtacaa gaccctttac agcccgctc tgtgtaccct  
1320  
tcaacaccat tctctgaacc aaccatgctc atgtttttac ctcagtgcct ttgcacatgc  
1380  
tattccctct gcctggaatg ccctgtgccc cctctgccct ctgccgtgct aaaatatcac  
1440  
tcaccttaa acttcaaaat caagtgccat ctcttccttg ttaccttcag gcagaattaa  
1500  
ttactctttc ctctgtgcaa ttgttctata tcttcgctct agctcttttc ctgttgtatt  
1560  
gtaatgattt gtttatgttt accttcctta ctagactgtg agctcaagag caggccgtct  
1620  
taattattcc tttctgtacc cctagtgtct tttatggttc tcagcccctt ataacagggtg  
1680  
ctcaataaat atttttcaaa tgaaattatt aaatgtaaaa gaaaattaag attttttgtg  
1740  
aaaattatgg cttatttaag ttattaattt aaacagagtt aatttgaaac tcttccaaaa  
1800  
ctgttccttt ctgttttgtt aaaatctcaa tctaaacccc tgctgtacc tcaaacagtt  
1860  
ttctactgtt cgtaaattcc tataatataa aaagcgctat acagaactaa agttctcctt  
1920  
cctgcctatt ccattataac tccttcagaa aacccttccc agacaagaca gttctgctct  
1980  
tttcttgggg gatttgatgt aagtaaaggg ccacaccca aaaggtgggt acttacgaag  
2040  
gatattaata aacagagctt taaatTTTTT tgtagcttta aatagcttgt tgattgggaa  
2100  
catacacgtt agagtcaaac agactcctag tctgccagtt gctagccagg tgacctggac  
2160  
aagtcactta gtctctctga gtctctgttt tctcatctga gaaatgaggg ttaaaacctt  
2220  
cttcaggcca gatgcagtgg ctcacatctg taatcccagc actttgggag gccagggtgg  
2280  
gaggatcact tgagtccagg aggttaaggc tccagaaagc tagtatcatc cacggactct  
2340  
acctgggcaa gaaagcaagg tgctgtctct aactt  
2375

&lt;210&gt; 4692



&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4692

```

Xaa Asp Leu Lys Ala Lys Met Pro Asp Asp His Ala Arg Lys Ile Leu
 1           5           10           15
Leu Ser Arg Ile Asn Asn Tyr Thr Ile Pro Glu Glu Glu Ile Gly Ser
 20           25           30
Phe Leu Phe His Ala Ile Asn Lys Pro Asn Ala Pro Ile Trp Leu Ile
 35           40           45
Leu Asn Glu Ala Gly Leu Tyr Trp Arg Ala Val Gly Asn Ser Thr Phe
 50           55           60
Ala Ile Ala Cys Leu Gln Arg Ala Leu Asn Leu Ala Pro Leu Gln Tyr
 65           70           75           80
Gln Asp Val Pro Leu Val Asn Leu Ala Asn Leu Leu Ile His Tyr Gly
 85           90           95
Leu His Leu Asp Ala Thr Lys Leu Leu Leu Gln Ala Leu Ala Ile Asn
 100           105           110
Ser Ser Glu Pro Leu Thr Phe Leu Ser Leu Gly Asn Ala Tyr Leu Ala
 115           120           125
Leu Lys Asn Ile Ser Gly Ala Leu Glu Ala Phe Arg Gln Ala Leu Lys
 130           135           140
Leu Thr Thr Lys Cys Pro Glu Cys Glu Asn Ser Leu Lys Leu Ile Arg
 145           150           155           160
Cys Met Gln Phe Tyr Pro Phe Leu Tyr Asn Ile Thr Ser Ser Val Cys
 165           170           175
Ser Gly Asn Cys His Glu Lys Thr Leu Asp Asn Ser His Asp Lys Gln
 180           185           190
Lys Tyr Phe Asp Asn Ser Gln Ser Leu Asp Ala Ala Glu Glu Glu Pro
 195           200           205
Ser Glu Arg Gly Thr Glu Glu Asp Pro Val Phe Ser Val Glu Asn Ser
 210           215           220
Gly Arg Asp Ser Asp Ala Leu Arg Leu Glu Ser Thr Val Val Glu Glu
 225           230           235           240
Ser Asn Gly Ser Asp Glu Met Glu Asn Ser Asp Glu Thr Lys Met Ser
 245           250           255
Glu Glu Ile Leu Ala Leu Val Asp Glu Phe Gln Gln Ala Trp Pro Leu
 260           265           270
Glu Gly Phe Gly Gly Ala Leu Glu Met Lys Gly Arg Arg Leu Asp Leu
 275           280           285
Gln Gly Ile Arg Val Leu Lys Lys Gly Pro Gln Asp Gly Val Ala Arg
 290           295           300
Ser Ser Cys Tyr Gly Asp Cys Arg Ser Glu Asp Asp Glu Ala Thr Glu
 305           310           315           320
Trp Ile Thr Phe Gln Val Lys Arg Val Lys Lys Pro Lys Gly Asp His
 325           330           335
Lys Lys Thr Pro Gly Lys Lys Val Glu Thr Gly Gln Ile Glu Asn Gly
 340           345           350
His Arg Tyr Gln Ala Asn Leu Glu Ile Thr Gly Pro Lys Val Ala Ser
 355           360           365
Pro Gly Pro Gln Gly Leu Leu Asp Trp Lys Thr Arg Lys Val Pro
 370           375           380

```

<210> 4693  
 <211> 794  
 <212> DNA  
 <213> Homo sapiens

<400> 4693  
 tccggaagtg ccttcgccct ccgtaaagat ggccggggca gtcggcacga gggaggcggg  
 60  
 gatgcgcctg cgcaacaagt tcggcgggga agatggcgga tgacaaggat tctctgccta  
 120  
 agcttaagga cctggcattt ctcaagaacc agctggaaag cctgcagcgg cgtgtagaag  
 180  
 acgaagtcaa cagtggagtg ggccaggatg gctcgctggt gtcctccccg ttcctcaagg  
 240  
 gattcctggc tggttatgtg gtggccaaac tgagggcatc agcagtattg ggctttgctg  
 300  
 tgggcacctg cactggcatc tatgcggctc aggcataatgc tgtgccaac gtggagaaga  
 360  
 cattaaggga ctatttgcag ttgctacgca agggggccga ctagctctag gtgccatgga  
 420  
 agaggcagga tgagcagctc agccttcagg tggagacact ttatctggat tccccagctg  
 480  
 tcatccattt gctatctcca actttcctgc caccttcac cttgcctccc ttctgcaga  
 540  
 ttgtggacag tagttcctca gcctgcaccc tggattcctt cttccccctc ctagctccat  
 600  
 gggactcgcc ccaagactgt ggcttcaagg accaccagcc ccttactctt caagccctga  
 660  
 ctgtggagtt ggtagatgcc tctgatcctc agtattctct ctggcaatgt tccacggctt  
 720  
 ctccttctg ggagctggct ccataacttg attttcccca aacgtgttgc aatccctgct  
 780  
 gcccttcac gcgt  
 794

<210> 4694  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 4694  
 Met Ala Asp Asp Lys Asp Ser Leu Pro Lys Leu Lys Asp Leu Ala Phe  
 1 5 10 15  
 Leu Lys Asn Gln Leu Glu Ser Leu Gln Arg Arg Val Glu Asp Glu Val  
 20 25 30  
 Asn Ser Gly Val Gly Gln Asp Gly Ser Leu Leu Ser Ser Pro Phe Leu  
 35 40 45  
 Lys Gly Phe Leu Ala Gly Tyr Val Val Ala Lys Leu Arg Ala Ser Ala  
 50 55 60  
 Val Leu Gly Phe Ala Val Gly Thr Cys Thr Gly Ile Tyr Ala Ala Gln  
 65 70 75 80  
 Ala Tyr Ala Val Pro Asn Val Glu Lys Thr Leu Arg Asp Tyr Leu Gln  
 85 90 95  
 Leu Leu Arg Lys Gly Pro Asp

100

&lt;210&gt; 4695

&lt;211&gt; 2209

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4695

nngtgcactg cccacctcct agcctttgcc tgccattccc aggtcctcct gtccctgcca  
60  
gaatacaccc ttctttcaac ggctattcaa agatcacctg gctgcaaagc tttctttcct  
120  
cgcctgtgct tcctccttaa ctatctctag ttaaagctat ctccaccacc aggccacaag  
180  
ctcccagaga acagagatcg tgtttttcat tattctgtcc atttccatcc cccactcccc  
240  
cccacttact gtgtgagtc agcactgtgt gagtccttga taaaaacgat gagcaaatcc  
300  
ccaggccttg agtgggtcag cagtgaccac atctatccgc agggatccac ggggaagctg  
360  
gtgtgcgccg gataaaggta ggtgggtccct ctggcacagg ccgccctaag gccaaaggccc  
420  
cccagatgca gctcattcct ggctccctct gacagatggc aaccgccgat gagattgtga  
480  
aactcatgct cgaccacatg acaaacacca ccaacgcgtc ccatgtgcct gtgcagcccc  
540  
gtgggtagcc tctcgccgc gtctcccaac ccctcctaca cctctgggga ggagacgccc  
600  
agagggtctc acctgggggtg tcatgtctac ccgcaggctc ctcagttgtg atgatgggtca  
660  
acaacctggg tggcctgtca ttcctggaac tgggcatcat agccgacgt accgtccgct  
720  
ccctggggaa cgtgggtcatt tgtggggtta ttgaggatg cctgccagga ggaaatcagg  
780  
acatctccct cccgacctca gagccccagc ttccaaggtc cttgcttttc tgttgttttc  
840  
tttccctgat gcccattttt cccttttgga ctgccacact ctggtattgc agagggccgc  
900  
ggggtgaaga ttgcccgctgc cctgggtggc accttcatgt cagcactgga gatgcctggc  
960  
atctctctca ccctcctgct ggtggatgag cctctcctga aactgataga tgctgaaacc  
1020  
actgcagcag cctggcctaa cgtggctgca gtctccatta ctgggcggaa gcggagccgg  
1080  
gtagccctg ccgagcccca ggaggccct gattccactg ctgcannnga ggctcagcct  
1140  
cgaagcnnga tggcgctggg gctggaacgg gtgtgcagca ctctcctggg cctggaggaa  
1200  
cacctgaatg ccctggaccg ggctgctggg gacggcgact gtggcaccac ccacagccgt  
1260  
gcgccagag caatccagga gtggctgaag gagggccac ccctgccag ccctgccag  
1320  
ctgctctcca agttgtctgt tctgctcctg gagaagatgg gaggtcatc tggggcgctc  
1380

tatggcctgt tctgactgc ggctgcacag cccctgaagg ccaagaccag cctcccagcc  
 1440  
 tggctgctg ccatggatgc cggcctggaa gccatgcaga agtatggcaa ggctgctcca  
 1500  
 ggggacagga ctatgctgga ttctctgtgg gcagcggagc aggagctcca agcctggaag  
 1560  
 agcccaggag ctgatctgtt acaagtcctg accaaagcag tcaagagtgc cgaagctgca  
 1620  
 gccgaggcca ccaagaatat ggaagctgga gccggaagag ccagttatat cagctcagca  
 1680  
 cggctggagc agccagaccc cggggcgggtg gcagctgctg ccacccctcg ggccatcttg  
 1740  
 gaggtcttgc agagctaggg tgtgtgactg cctcccttgg cctcagctcc tctcactgct  
 1800  
 gtgctgaggt ggcctttgtc acttccttct gccttccaac cctcaccttc ccccggcctg  
 1860  
 gcccatttgg ccaacagaga atccagcata gtcctgtccc ctggagcagc cttgccatac  
 1920  
 ttctgcatgg cttccaggcc ggcattccatg gcagcagacc aggctgggtg ggggctggag  
 1980  
 gagatcgcaa agcaggtgaa cgtgggtcacc aaggccatgg gtaccctggg ggtgagctta  
 2040  
 tcctcctgca gcgtccctgg ttccaaaccc accttcgagc tctcagccga cgaggtggag  
 2100  
 ctgggcctgg ggatccacgg ggaagctggt gtgcgccgga taaagatggc aaccgccgat  
 2160  
 gagattgtga aactcatgct cgaccacatg acaaacacca ccaacgcgt  
 2209

<210> 4696

<211> 302

<212> PRT

<213> Homo sapiens

<400> 4696

Cys	Pro	Phe	Phe	Phe	Gly	Leu	Pro	His	Ser	Gly	Ile	Ala	Glu	Gly
1			5					10					15	
Arg	Gly	Val	Lys	Ile	Ala	Arg	Ala	Leu	Val	Gly	Thr	Phe	Met	Ser
			20					25					30	Ala
Leu	Glu	Met	Pro	Gly	Ile	Ser	Leu	Thr	Leu	Leu	Leu	Val	Asp	Glu
		35					40					45		Pro
Leu	Leu	Lys	Leu	Ile	Asp	Ala	Glu	Thr	Thr	Ala	Ala	Ala	Trp	Pro
		50				55					60			Asn
Val	Ala	Ala	Val	Ser	Ile	Thr	Gly	Arg	Lys	Arg	Ser	Arg	Val	Ala
65					70					75				80
Ala	Glu	Pro	Gln	Glu	Ala	Pro	Asp	Ser	Thr	Ala	Ala	Xaa	Glu	Ala
					85				90				95	Gln
Pro	Arg	Ser	Xaa	Met	Ala	Leu	Val	Leu	Glu	Arg	Val	Cys	Ser	Thr
			100					105				110		Leu
Leu	Gly	Leu	Glu	Glu	His	Leu	Asn	Ala	Leu	Asp	Arg	Ala	Ala	Gly
		115					120					125		Asp
Gly	Asp	Cys	Gly	Thr	Thr	His	Ser	Arg	Ala	Ala	Arg	Ala	Ile	Gln
	130					135					140			Glu
Trp	Leu	Lys	Glu	Gly	Pro	Pro	Pro	Ala	Ser	Pro	Ala	Gln	Leu	Leu
													Ser	

145                      150                      155                      160  
 Lys Leu Ser Val Leu Leu Leu Glu Lys Met Gly Gly Ser Ser Gly Ala  
                          165                      170                      175  
 Leu Tyr Gly Leu Phe Leu Thr Ala Ala Ala Gln Pro Leu Lys Ala Lys  
                          180                      185                      190  
 Thr Ser Leu Pro Ala Trp Ser Ala Ala Met Asp Ala Gly Leu Glu Ala  
                          195                      200                      205  
 Met Gln Lys Tyr Gly Lys Ala Ala Pro Gly Asp Arg Thr Met Leu Asp  
                          210                      215                      220  
 Ser Leu Trp Ala Ala Glu Gln Glu Leu Gln Ala Trp Lys Ser Pro Gly  
 225                      230                      235                      240  
 Ala Asp Leu Leu Gln Val Leu Thr Lys Ala Val Lys Ser Ala Glu Ala  
                          245                      250                      255  
 Ala Ala Glu Ala Thr Lys Asn Met Glu Ala Gly Ala Gly Arg Ala Ser  
                          260                      265                      270  
 Tyr Ile Ser Ser Ala Arg Leu Glu Gln Pro Asp Pro Gly Ala Val Ala  
                          275                      280                      285  
 Ala Ala Ala Ile Leu Arg Ala Ile Leu Glu Val Leu Gln Ser  
                          290                      295                      300

<210> 4697

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 4697

gctgaatatt gaaattgcct caggtacctc atttctgatt tgtccattat aattttgtat  
 60  
 tggaaagtga ttggtgacaa attttttata atgcatcatt gtgcgtccct gtatgcatac  
 120  
 taccttgtac tgaaaaatgg agtgctggca tacattggga attttcgcct gcttgcagag  
 180  
 catttccagc ccgtttgntg aatcagcgac caaaggctgt agtcactgga aacatggact  
 240  
 tgttttcatc tctaactctc cacctctcca cactcagcct gcagagcccg gccaacaatc  
 300  
 aagacagatg ggaccgtggt cagaattcac acaaaagctg aaggatttat ggatgcggat  
 360  
 atacctctgg aattggtggt ccatttgcca gtcaattatc cttcatgtct acctggtatc  
 420  
 tcgattaact ctgaacagtt gaccagggcc cagtgtgtga ctgtgaaaga gaagttactt  
 480  
 gagcaagcag agagcctttt gtcggagcct atggttcatg agctggttct ctggattcag  
 540  
 cagaatctca ggcatactct cagccaacca gaaactggca gtggcagtga aaagtgtact  
 600  
 ttttcaacaa gcacgaccat ggatgatgga ttgtggataa ctcttttgca tttagatcac  
 660  
 atgagagcaa agactaaata tgtcaaaatt gtggagaagt gggcttcaga ttttaaggctg  
 720  
 acaggaagac tgatgttcat gggtaaaata atactgattt tactacaggg agacagaaac  
 780  
 aacctcaagg tgccaaaaag ttaaatgttg agtatgaatc tggctatttt ctgctttaaa  
 840

tgggtgtgtct ttaagtgtgt tttataacaa tgggatagat taattattaa gatgtttctg  
 900  
 ctttcattat tacaacctta atggatcttc cttttctttt taaagaatgt ctgactgcta  
 960  
 attacaagta caaacttgca aagcttgaag aataagattg ctttttaaaa atcatgtcac  
 1020  
 ttaataaagt gacaggttat ttaaaaa  
 1047

<210> 4698

<211> 182

<212> PRT

<213> Homo sapiens

<400> 4698

Leu	Ser	Thr	Ser	Pro	His	Ser	Ala	Cys	Arg	Ala	Arg	Pro	Thr	Ile	Lys
1				5					10					15	
Thr	Asp	Gly	Thr	Val	Phe	Arg	Ile	His	Thr	Lys	Ala	Glu	Gly	Phe	Met
			20					25					30		
Asp	Ala	Asp	Ile	Pro	Leu	Glu	Leu	Val	Phe	His	Leu	Pro	Val	Asn	Tyr
		35					40					45			
Pro	Ser	Cys	Leu	Pro	Gly	Ile	Ser	Ile	Asn	Ser	Glu	Gln	Leu	Thr	Arg
	50					55					60				
Ala	Gln	Cys	Val	Thr	Val	Lys	Glu	Lys	Leu	Leu	Glu	Gln	Ala	Glu	Ser
65					70					75					80
Leu	Leu	Ser	Glu	Pro	Met	Val	His	Glu	Leu	Val	Leu	Trp	Ile	Gln	Gln
				85					90					95	
Asn	Leu	Arg	His	Ile	Leu	Ser	Gln	Pro	Glu	Thr	Gly	Ser	Gly	Ser	Glu
			100					105					110		
Lys	Cys	Thr	Phe	Ser	Thr	Ser	Thr	Thr	Met	Asp	Asp	Gly	Leu	Trp	Ile
		115					120					125			
Thr	Leu	Leu	His	Leu	Asp	His	Met	Arg	Ala	Lys	Thr	Lys	Tyr	Val	Lys
	130					135					140				
Ile	Val	Glu	Lys	Trp	Ala	Ser	Asp	Leu	Arg	Leu	Thr	Gly	Arg	Leu	Met
145					150					155					160
Phe	Met	Gly	Lys	Ile	Ile	Leu	Ile	Leu	Leu	Gln	Gly	Asp	Arg	Asn	Asn
				165					170					175	
Leu	Lys	Val	Pro	Lys	Ser										
				180											

<210> 4699

<211> 1441

<212> DNA

<213> Homo sapiens

<400> 4699

tctttttttt tttttttttt tacagtgtt tcaaacagtt taatgtaatt ccaagacaaa  
 60  
 gtgtgattac atttctacac atatacaata tgcataatgtg agtttacaaa ttttaattaa  
 120  
 taagtcatctt cacctcggag accgaaaaaa tgatcaaaaa gaaactatga gtaacaagct  
 180  
 ataacatagt tcaccacaat gggaccccc ccccttttt ctcacctac agtttagtaat  
 240

attacaatta aaataactat attcttctat attttttctg ttaaaatcat ctcataaatt  
 300  
 tacaatgcta ttattagttt ccaagactaa tataaattca ctccattttt ctacaacgaa  
 360  
 aatgattaat ttagaagcac acgacgtcat gatgaaaaac acaagcattt tagtagcaag  
 420  
 gacttgatca gttaagaatt agttttcttg taaaacattc taaagccaag taaaatatcc  
 480  
 attcttataa catacctata atatgagact aaggaatagg ttacatatag gtctacaaca  
 540  
 cattggtttg tctttaaaaa aacaaaagta gacatttata aataaaaaag agggacaatt  
 600  
 cacataggaa aaagaggtac acgagaaaat actggtgcac gcaataattt tcacacagat  
 660  
 taacatggat taacactttt tattacagaa accgtacggg gaaggaacac aacagaccag  
 720  
 ggctttcata ggggttattga gattgagctg agatgacctg ggagagaaag atctagggtga  
 780  
 gatgacctg gggagggagc cacgttcctt ggacctggtg acttagtgtc gccgggtctc  
 840  
 ctcttcctg ttctcatttt ggggagtgag tctttctatc cagtgtcctg aattcatgag  
 900  
 cagttgaaag gtaaacattt ctgcagatcc attctctttc tctcctaag gataccattt  
 960  
 ttggaaacgt gacagagtat cagaggctgc agctcagtac acgtgggtcaa agcaaaacgg  
 1020  
 gatggaaact tccagtcact ctgatttggt gccccctca cccactgatg cgcttgaagc  
 1080  
 tgggacccag tgagacagca gcagaccct acagggcctg ctggctctgc cgtggtgagg  
 1140  
 tggatgacaa gggcacgcgc cagcctcag ccccatgtgt gcggagtggc ctgggacaca  
 1200  
 gcccatgcac gtccaagaca ccagtcttga ctccgacctc taaagagctc cttctcctca  
 1260  
 tctgtaaagc tatacttctc ctatccaatt tggtttgata tatatacaca aacatatata  
 1320  
 tcaacatcta tctctataca gtgattctac taaattagaa attctgctgc cccaaagtat  
 1380  
 gactttcttg tctatttcat ttggttaaaa aaatgcacac acagaggatg aagagatgat  
 1440  
 t  
 1441

&lt;210&gt; 4700

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4700

Met	Asp	Thr	Ile	Phe	Gly	Asn	Val	Thr	Glu	Tyr	Gln	Arg	Leu	Gln	Leu
1				5					10					15	
Ser	Thr	Arg	Gly	Gln	Ser	Lys	Thr	Gly	Trp	Lys	Leu	Pro	Val	Thr	Leu
			20					25					30		
Ile	Cys	Cys	Pro	Arg	His	Pro	Leu	Met	Arg	Leu	Lys	Leu	Gly	Pro	Ser





```

      1           5           10           15
Asp Pro Pro Thr Ser Ala Ser Glu Asn Ala Gly Ile Thr Gly Leu Ser
      20           25           30
His Xaa Pro Pro Gly His Phe Phe Leu Glu Thr Arg Ser Tyr Ser Leu
      35           40           45
Ala Lys Asn Gly Val Gln Trp Cys Asn Val Gly Ser Leu Gln Pro Lys
      50           55           60
Pro Pro Gly Leu Lys
65

```

&lt;210&gt; 4703

&lt;211&gt; 513

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4703

```

nnctgtttcc ttctttgatt gacaacttgt gttaaccctc gcacatctct gggccaattt
60
ttgcttgtaa gtctttccgg agacccttgg aatttaaattc attagcaccg cgaccttccc
120
cgaagagtct tcgaagggtt gccgcttttc ggtggcgag ttctcgcgag aaggaaaatg
180
gcagctcccg agcagccgct tgcgatatca aggggatgca cgagctcctc ctgctttcc
240
ccgcctcggg ctgaccgaac ccttctgggc aggcacctgc cggctgagct tactgctgag
300
gagaaagagg acttgctgaa gtacttcggg gctcagctctg tgcgggtcct gtcagataag
360
gggcgactga aacatacagc ttttgccaca ttccctaattg aaaaagcagc tataaaggca
420
ttgacaagac tccatcaact gaaactttta ggtcatactt tagtcgttga atttgcaaaa
480
gagcaagatc gagttcactc cccatgtccc act
513

```

&lt;210&gt; 4704

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4704

```

Met Ala Ala Pro Glu Gln Pro Leu Ala Ile Ser Arg Gly Cys Thr Ser
      1           5           10           15
Ser Ser Ser Leu Ser Pro Pro Arg Ala Asp Arg Thr Leu Leu Val Arg
      20           25           30
His Leu Pro Ala Glu Leu Thr Ala Glu Glu Lys Glu Asp Leu Leu Lys
      35           40           45
Tyr Phe Gly Ala Gln Ser Val Arg Val Leu Ser Asp Lys Gly Arg Leu
      50           55           60
Lys His Thr Ala Phe Ala Thr Phe Pro Asn Glu Lys Ala Ala Ile Lys
      65           70           75           80
Ala Leu Thr Arg Leu His Gln Leu Lys Leu Leu Gly His Thr Leu Val
      85           90           95
Val Glu Phe Ala Lys Glu Gln Asp Arg Val His Ser Pro Cys Pro Thr

```

100

105

110

&lt;210&gt; 4705

&lt;211&gt; 569

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4705

ncagacccat actgtgtggg cacggtgctg gccagcagac cgcacacgct agatggccga  
60

aacattgacc cctagccatg cccaccccgg gggatgcagc cgtagagaac acggccgaag  
120

gaaggatgga aaggacccag gagcgataac agtaaataca ataagatatt tgtcgggtgga  
180

attcctcaca attgtggtga gacagagctc aggggaatact tcaagaagtt cggagtggtc  
240

acggaggtag tcatgatcta tgacgccgag aagcagaggg cccgaggtaa gggcagatct  
300

agtttgacct cggecttctc cctgctctc cctcagatgg caaactatct caccgccag  
360

gcacacacag gtggcggtg tagcaaacag cctcaggaag ggacgatttg gagacaaatg  
420

actaaaacgt gggctcctca tgtgcacccc attcagcctg tctgtgcttc ccgaggctcag  
480

acgtcacaca ttgttttttg gcttgtttct ttgaagtttt tacgacttgt catgagtctc  
540

ggcctggctt ctgtttttca ctgtccgga  
569

&lt;210&gt; 4706

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4706

Arg Thr Arg Pro Lys Glu Gly Trp Lys Gly Pro Arg Ser Asp Asn Ser  
1 5 10 15

Lys Ser Asn Lys Ile Phe Val Gly Gly Ile Pro His Asn Cys Gly Glu  
20 25 30

Thr Glu Leu Arg Glu Tyr Phe Lys Lys Phe Gly Val Val Thr Glu Val  
35 40 45

Val Met Ile Tyr Asp Ala Glu Lys Gln Arg Pro Arg Gly Lys Gly Arg  
50 55 60

Ser Ser Leu Thr Ser Ala Phe Ser Leu Leu Leu Pro Gln Met Ala Asn  
65 70 75 80

Tyr Leu Thr Arg Gln Ala His Thr Gly Gly Gly Cys Ser Lys Gln Pro  
85 90 95

Gln Glu Gly Thr Ile Trp Arg Gln Met Thr Lys Thr Trp Ala Pro His  
100 105 110

Val His Pro Ile Gln Pro Val Cys Ala Ser Arg Gly Gln Thr Ser His  
115 120 125

Ile Val Phe Trp Leu Val Leu Leu Lys Phe Leu Arg Leu Val Met Ser  
130 135 140

Leu Gly Leu Ala Ser Val Phe His Cys Pro

145

150

&lt;210&gt; 4707

&lt;211&gt; 748

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4707

ngtcctcttg tccttgagcg tcaaccttct ttcctgaag tggctggggg tcctgtttcc  
 60  
 ttctttgatt gacaacttgt gttaaccctc gcacatctct gggccaattt ttgcttgtaa  
 120  
 gtctttccgg agacccttgg aatttaaata attagcacgg cgcccttccc cgaagagtct  
 180  
 tcgaagggtt gccgcttttc ggtggcgag ttctcgag aaggtgactt tctttctcgg  
 240  
 tatttcctgg ttccagaat ccttagcgcg aggcggaaaa aatatttctc ccagcttggtg  
 300  
 ttgatgccgc gattttgact gagacttctt cccacgattt ctgtttttgc ttctccaagg  
 360  
 aaaatggcag ctcccgagca gccgcttgcg atatcaaggg gatgcacgag ctctctctcg  
 420  
 ctttccccgc ctggggcgca ccgaacctt ctggtcaggc acctgccggc tgagcttact  
 480  
 gctgaggaga aagaggactt gctgaagtac ttcggggctc agtctgtgcg ggtcctgtca  
 540  
 gataaggggc gactgaaaca tacagctttt gccacattcc ctaatgaaaa agcagctata  
 600  
 aaggcattga caagactcca tcaactgaaa cttttaggtc atactttagt cgttgaattt  
 660  
 gcaaaagagc aagatcgagt tcaactccca tgtccactt caggctctga aaaaaaaaaa  
 720  
 atgtctgatg accctgtcga agatgata  
 748

&lt;210&gt; 4708

&lt;211&gt; 128

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4708

Met	Ala	Ala	Pro	Glu	Gln	Pro	Leu	Ala	Ile	Ser	Arg	Gly	Cys	Thr	Ser
1			5					10						15	
Ser	Ser	Ser	Leu	Ser	Pro	Pro	Arg	Gly	Asp	Arg	Thr	Leu	Leu	Val	Arg
		20					25					30			
His	Leu	Pro	Ala	Glu	Leu	Thr	Ala	Glu	Glu	Lys	Glu	Asp	Leu	Leu	Lys
		35				40					45				
Tyr	Phe	Gly	Ala	Gln	Ser	Val	Arg	Val	Leu	Ser	Asp	Lys	Gly	Arg	Leu
	50				55				60						
Lys	His	Thr	Ala	Phe	Ala	Thr	Phe	Pro	Asn	Glu	Lys	Ala	Ala	Ile	Lys
65				70				75						80	
Ala	Leu	Thr	Arg	Leu	His	Gln	Leu	Lys	Leu	Leu	Gly	His	Thr	Leu	Val
			85				90					95			
Val	Glu	Phe	Ala	Lys	Glu	Gln	Asp	Arg	Val	His	Ser	Pro	Cys	Pro	Thr

3892

aaaaaaattt attaaaaaat tctattattt t  
1351

<210> 4710

<211> 304

<212> PRT

<213> Homo sapiens

<400> 4710

Met	Asn	Asn	Ser	Gly	Ala	Asp	Glu	Ile	Gly	Lys	Leu	Phe	Val	Gly	Gly
1				5					10					15	
Leu	Asp	Trp	Ser	Thr	Thr	Gln	Glu	Thr	Leu	Arg	Ser	Tyr	Phe	Ser	Gln
			20					25					30		
Tyr	Gly	Glu	Val	Val	Asp	Cys	Val	Ile	Met	Lys	Asp	Lys	Thr	Thr	Asn
		35					40					45			
Gln	Ser	Arg	Gly	Phe	Gly	Phe	Val	Lys	Phe	Lys	Asp	Pro	Asn	Cys	Val
		50				55					60				
Gly	Thr	Val	Leu	Ala	Ser	Arg	Pro	His	Thr	Leu	Asp	Gly	Arg	Asn	Ile
65					70					75					80
Asp	Pro	Lys	Pro	Cys	Thr	Pro	Arg	Gly	Met	Gln	Pro	Glu	Arg	Thr	Arg
				85					90					95	
Pro	Lys	Glu	Gly	Trp	Gln	Lys	Gly	Pro	Arg	Ser	Asp	Asn	Ser	Lys	Ser
			100					105					110		
Asn	Lys	Ile	Phe	Val	Gly	Gly	Ile	Pro	His	Asn	Cys	Gly	Glu	Thr	Glu
		115					120					125			
Leu	Arg	Glu	Tyr	Phe	Lys	Lys	Phe	Gly	Val	Val	Thr	Glu	Val	Val	Met
		130					135					140			
Ile	Tyr	Asp	Ala	Glu	Lys	Gln	Arg	Pro	Arg	Gly	Phe	Gly	Phe	Ile	Thr
145					150					155					160
Phe	Glu	Asp	Glu	Gln	Ser	Val	Asp	Gln	Ala	Val	Asn	Met	His	Phe	His
				165					170					175	
Asp	Ile	Met	Gly	Lys	Lys	Val	Glu	Val	Lys	Arg	Ala	Glu	Pro	Arg	Asp
		180						185					190		
Ser	Lys	Ser	Gln	Ala	Pro	Gly	Gln	Pro	Gly	Ala	Ser	Gln	Trp	Gly	Ser
		195					200					205			
Arg	Val	Val	Pro	Asn	Ala	Ala	Asn	Gly	Trp	Ala	Gly	Gln	Pro	Pro	Pro
		210				215					220				
Thr	Trp	Gln	Gln	Gly	Tyr	Gly	Pro	Gln	Gly	Met	Trp	Val	Pro	Ala	Gly
225					230					235					240
Gln	Ala	Ile	Gly	Gly	Tyr	Gly	Pro	Pro	Pro	Ala	Gly	Arg	Gly	Ala	Pro
				245						250				255	
Pro	Pro	Pro	Pro	Pro	Phe	Thr	Ser	Tyr	Ile	Val	Ser	Thr	Pro	Pro	Gly
			260					265					270		
Gly	Phe	Pro	Pro	Pro	Gln	Gly	Phe	Pro	Gln	Gly	Tyr	Gly	Ala	Pro	Pro
		275					280					285			
Gln	Phe	Ser	Phe	Gly	Tyr	Gly	Pro	Pro	Pro	Pro	Pro	Pro	Gly	Ser	Arg
		290					295					300			

<210> 4711

<211> 2061

<212> DNA

<213> Homo sapiens

<400> 4711

ncgcacggcc gcgcagatct gtcttgctgg aagctttttc ctagaggttg agcggtttgc  
60  
acaatgtcgg aaatggctga gttgtccgag ctgtatgaag agagcagtga cctgcagatg  
120  
gatgtgatgc ctggcgaggg tgaccttccg cagatggagg taggcagcgg gagccgggag  
180  
ctatccctgc gtccctcccc cagcggggcc caacagctcg aggaggaagg cccaatggag  
240  
gaggaggagg ccagccaat ggcggcgcca gaggggaaac ggagccttgc taacggggccc  
300  
aacgctgggg agcagccagg ccaggtggcg ggcgcagact tcgagagcga ggacgagggc  
360  
gaggaatttg atgactggga ggacgactac gactatcccg aagaggagca gctcagtggg  
420  
gccggctaca gagtatcagc cgctcttgaa gaagccgaca agatgtttct gagaacaaga  
480  
gaaccagccc tggatggcgg gtttcagatg cattatgaga agaccccggt tgatcagtta  
540  
gcttttatcg aagagctttt ttcactgatg gttgtcaatc gtctgaccga agaactcggc  
600  
tgtgatgaga ttattgatag agagtagtta gatgctgtta aaagaggagg aaactacttg  
660  
aggagggacc caactttccg ctatcttttg ggttcattcc aaatagtttt gtgccattga  
720  
aaaacttgac cttcaaaaaa atttgttttt cagaatagaa cacaatagga cagtgactgc  
780  
acagttgtga aaaaggaaga gaatcattaa agaaaaagaa aaaagatttt aagaccgttg  
840  
aatcaatta tcaagaacgt cctaaaacac ctatggcttt gactttgtta ttgatccaga  
900  
ttattttcct tgcattgggg aaaatatctt tcatatttgt ttgctgtaaa gatggttttg  
960  
caagaataag tcatgaccaa gacaaactgc caatacaaaa gccactgat actaattata  
1020  
taatgagaaa aaaatgtatc caactaggac acatatcttt tgagtatttt ggactgaaag  
1080  
cttaagaaaa cttggaaaat tctattttgt gatctagtca agccacagtt atcaaaggct  
1140  
acattttcag tgtaagataa atggatgagt aaactcaa atgtatcacg tgtgctttgt  
1200  
atcttaagat gtgtttccaa gagcatctga aattttgttt gtacatgtat cttgatcatt  
1260  
tataaagcca ctgtgatcta taaatcaaga aaatccattg tcataaccat ttttaaaagt  
1320  
caaaaattaa gacatcctta attaaaaagt ttcaaactta gacactaaat gtgtgtgaat  
1380  
gtacaaagaa aacaaacat tgcttatgct gttatatact agagaaattt tgttttgctt  
1440  
gctgttttaa cttgacagat gaaggacttt agttgaactt catattgtaa gaactgttaa  
1500  
taaaagttgt caagtaaaaa gcgctatatc taaaagact ttatgaacag ttattctatc  
1560  
aacttttaaa ggttttaaac ctgccagaa attaccttg tatctgaagt ttccctctgt  
1620

ctcctcctct aattaagctt gttattgtc atgcaccagc attggagata ataaaatttc  
 1680  
 ttgttctgtg tattttgttt ggctaatagt attgcataca tactttctct gtatactact  
 1740  
 ttctattgta tgtgttaacc agtattaagg gaaaatgac cagcttcagc tatctaattc  
 1800  
 acaaattaat ttctggaaat taaactttgt aaattaagtt ttgcctata agaatttgct  
 1860  
 ggtctgggaa aacctgccct atcaatgagt atgttgccgt gggtacctta ctaagatgct  
 1920  
 gaagttctag gagagtaatg attacatcag aaggctaggt tcagcaaaat aagtgtatca  
 1980  
 gcagggtttta tcatgatcag taaaaatggt ccaaagtgtt ctgctccatt atagcagtaa  
 2040  
 agaacgaata tccaatgcaa a  
 2061

&lt;210&gt; 4712

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4712

Met	Ser	Glu	Met	Ala	Glu	Leu	Ser	Glu	Leu	Tyr	Glu	Glu	Ser	Ser	Asp
1				5					10					15	
Leu	Gln	Met	Asp	Val	Met	Pro	Gly	Glu	Gly	Asp	Leu	Pro	Gln	Met	Glu
		20						25					30		
Val	Gly	Ser	Gly	Ser	Arg	Glu	Leu	Ser	Leu	Arg	Pro	Ser	Arg	Ser	Gly
		35					40					45			
Ala	Gln	Gln	Leu	Glu	Glu	Glu	Gly	Pro	Met	Glu	Glu	Glu	Glu	Ala	Gln
	50					55				60					
Pro	Met	Ala	Ala	Pro	Glu	Gly	Lys	Arg	Ser	Leu	Ala	Asn	Gly	Pro	Asn
65					70				75					80	
Ala	Gly	Glu	Gln	Pro	Gly	Gln	Val	Ala	Gly	Ala	Asp	Phe	Glu	Ser	Glu
			85					90					95		
Asp	Glu	Gly	Glu	Glu	Phe	Asp	Asp	Trp	Glu	Asp	Asp	Tyr	Asp	Tyr	Pro
		100						105				110			
Glu	Glu	Glu	Gln	Leu	Ser	Gly	Ala	Gly	Tyr	Arg	Val	Ser	Ala	Ala	Leu
		115					120					125			
Glu	Glu	Ala	Asp	Lys	Met	Phe	Leu	Arg	Thr	Arg	Glu	Pro	Ala	Leu	Asp
		130				135					140				
Gly	Gly	Phe	Gln	Met	His	Tyr	Glu	Lys	Thr	Pro	Phe	Asp	Gln	Leu	Ala
145				150						155				160	
Phe	Ile	Glu	Glu	Leu	Phe	Ser	Leu	Met	Val	Val	Asn	Arg	Leu	Thr	Glu
			165					170						175	
Glu	Leu	Gly	Cys	Asp	Glu	Ile	Ile	Asp	Arg	Glu					
		180						185							

&lt;210&gt; 4713

&lt;211&gt; 1324

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4713

aattcggcac agcacggaac cccctcctct cacagaaccc cctcctctca cacagaaccc  
60  
cctcctctca cacagaaccc cctcctctca cggaaccccc tcctctcacg gaacccccctc  
120  
ctctcacgga acgccctcct ctcacacaga acccctcctc ctcaccgaat cccatctcag  
180  
tcttgagttt tccctcgact ctgttgcttc cgctcacatc ttagtgagtc cccagggcct  
240  
ctgcggggca tggaatcaca cgtgcagtgt tccggcatgt tcagcctggg gtgtgacagt  
300  
ggggttccct gccaggccag cagtgtgctc tgactcgggg cagggaccag gttctgtgta  
360  
gctttgtgct caagtgctga gcagagtaga ctctcagcag atgtttgaat gaatgggtga  
420  
accaatggct gcacaaatga acgagcctga ctctccctca tgatttggtc catagtgtgt  
480  
ttaaatacc tccatagtggt ctttttagctc cttgaagatg gaaacagggt tgcatagtaa  
540  
gtttgtttta ttgaatggaa tggacttaaa gtcttcggac ttgggagaat taggacagat  
600  
ctgtttcccc gttggtaaag taaagggttg gctgatgat ctcagaaact caggaagagt  
660  
gatggtcggc cccagggctg agagtgagtt actgccaggt ccagggctgt cctgtgttc  
720  
tggctcccag accacagtgt ttcttctga agccgggtgg tgcagccact ttgccttgc  
780  
cctctacgcc tttcctgaag gatgaggtgg ggccagtctg cctctgggag ctcggtcaag  
840  
ttcacccgcc tgcttgctg tccagccaag tacctggccc agatcattgt gatgggcgtg  
900  
cagggtgttg gcagggcctt tgcacgggcc ttgcggcagg agtttgagc cagccgggcc  
960  
gcagctgatg cccgaggacg cgctggacac cggctcgcag ccgcttccaa cctctccggc  
1020  
ctcagcctcc aggaggcaca gcagattctc aacgtgtcca agctgagccc tgaggaggtc  
1080  
cagaagaact atgaacactt atttaagggt aatgataaat ccgtgggtgg ctccttctac  
1140  
ctgcagtcaa aggtgggtccg cgcaaaggag cgcctggatg aggaactcaa aatccaggcc  
1200  
caggaggaca gagaaaaagg gcagatgccc catacgtgac tgctcggctc cccccccca  
1260  
ccccgccgcc tctaatttat agcttggtta taaatttctt ttctgcaaaa aaaaaaaaaa  
1320  
aaaa  
1324

&lt;210&gt; 4714

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4714

Met Arg Trp Gly Gln Ser Ala Ser Gly Ser Ser Val Lys Phe Thr Arg



1					5					10					15				
Leu	Pro	Ala	Cys	Pro	Ala	Lys	Tyr	Leu	Ala	Gln	Ile	Ile	Val	Met	Gly				
20								25				30							
Val	Gln	Val	Val	Gly	Arg	Ala	Phe	Ala	Arg	Ala	Leu	Arg	Gln	Glu	Phe				
35								40				45							
Ala	Ala	Ser	Arg	Ala	Ala	Ala	Asp	Ala	Arg	Gly	Arg	Ala	Gly	His	Arg				
50				55				60											
Ser	Ala	Ala	Ala	Ser	Asn	Leu	Ser	Gly	Leu	Ser	Leu	Gln	Glu	Ala	Gln				
65				70				75				80							
Gln	Ile	Leu	Asn	Val	Ser	Lys	Leu	Ser	Pro	Glu	Glu	Val	Gln	Lys	Asn				
85								90				95							
Tyr	Glu	His	Leu	Phe	Lys	Val	Asn	Asp	Lys	Ser	Val	Gly	Gly	Ser	Phe				
100								105				110							
Tyr	Leu	Gln	Ser	Lys	Val	Val	Arg	Ala	Lys	Glu	Arg	Leu	Asp	Glu	Glu				
115								120				125							
Leu	Lys	Ile	Gln	Ala	Gln	Glu	Asp	Arg	Glu	Lys	Gly	Gln	Met	Pro	His				
130				135				140											
Thr																			
145																			

```
<210> 4715
<211> 2051
<212> DNA
<213> Homo sapiens
```

```

<400> 4715
nngggttttcg acagcctaga aggaacaaaa cggcatttcc gggaagatgc gcgacaagtc
60
aggtccggca catgttccgc gggcccagca atgacggatg atatcacctc ttcttctctg
120
gtgagagtct gaggatagag acttttttct caccatgaat gtcaccccag aggtcaagag
180
tcgtgggatg aagtttgctg aggagcagct gctaaagcat ggatggactc aaggcaaagg
240
cctcggcgga aggagaatgg taccactcag gctctcaggg tgacactgaa gcaagacact
300
catggggtag gacatgacct tgccaaggag ttcacaaacc actgggtggaa tgagctcttc
360
aacaagactg cggccaactt ggtagtggaa actgggcagg atggagtaca gataaggagc
420
cttttctaagg agaccaccgc ttataatcat cccaagccca acttgctgta tcagaagttt
480
gtgaagatgg ctacattgac ttcaggtgga gagaagccaa acaaagactt ggagagctgc
540
agtgatgacg acaaccaggg gtccaagtcc ccaaagattc tgactgatga gatgctgctc
600
caagcctgtg agggggcgaa agcacacaag gctgcccgtc ttgggatcac aatgaaggcc
660
aagcttgctc gcctagaggc ccaggagcag gccttcctgg ctctgtctca aggccaggac
720
cctggggccc ctcaactgca gtcagagagc aagcccccca aaaaaaagaa aaagaaaagg
780
aggcagaaaag aggaggaaga agctacagca tctgaaagga atgatgcaga tgagaagcac
840

```

ccagaacatg ctgagcagaa catcagaaaa agcaagaaga agaaaaggcg acatcaagaa  
 900  
 ggaaagggtct cagatgaaag agaggggtaca actaaagaat gagaaggagg acgctgcagg  
 960  
 aacaagtggg cttggggaat tgaatagcag agagcaaacc aatcagtcctc tcaggaaagg  
 1020  
 gaagaaaaag aagaggtgng caccatgaag aggagaagat ggggggtcttg gaggaaggag  
 1080  
 gaaaaggcaa ggaggctgca gagtgtcagg acagaggagg tagagagcag ggcatatgct  
 1140  
 gacccatgca gccgaagaaa gaagaggcag caacaggagg aggaggactt gaacctagaa  
 1200  
 gatagagggtg aggaaactgt tttaggtggt ggaaccaggg aagcagagag cagagcatgc  
 1260  
 agtgatggaa gaagcaggaa aagcaagaag aaaagacagc agcatcaaga ggaggaggac  
 1320  
 atcttgatg taaggatga gaaggatggc ggggctaggg aagcagagag cagagcacac  
 1380  
 actggtcaa gcagcnagag gtaagaggaa gaggcagcag catccaaga aggaaagagc  
 1440  
 tggagtcagc actgtccaga aagccaaaaa gaaacagaag aagagagact aaaggtctgg  
 1500  
 taaaggtagg gctcaattga ttgattttca ggagttgaag cctcaaagac cagggttgat  
 1560  
 gcaggtctgc aggtcttctg cccccctc aatgaggagt cctcccaga aaggaaactg  
 1620  
 atctctggga cgtcagctgc tgagaggagc aagcggtagt accaccctt agttgagggg  
 1680  
 gtcagcacag tcctttctgc agcttctaac ccaggacat gaactcaggt gcctagagaa  
 1740  
 gccaggcage taaaggacaa ggaatgctgg gggctgtggg aacaggaatg cagataccct  
 1800  
 ttgaaggagc attcctgcta aaagaagctg aaaatgtaga cctatgtgaa gtgctctgat  
 1860  
 ttctaaatat tgtgaagggt aagaaaaaca taaatttagg tctatgggct agatttagcc  
 1920  
 cacagttgcc agtttctagc gctaccaa atgaataa acatgcttgc gtccttagcc  
 1980  
 tagagataaa tcctgactgg catctctgtt cccagcctgg gaaggtcctg aatacaaatt  
 2040  
 agaagatatt c  
 2051

&lt;210&gt; 4716

&lt;211&gt; 239

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4716

Met	Asp	Ser	Arg	Gln	Arg	Pro	Arg	Arg	Lys	Glu	Asn	Gly	Ile	Thr	Gln
1				5					10					15	
Ala	Leu	Arg	Val	Thr	Leu	Lys	Gln	Asp	Thr	His	Gly	Val	Gly	His	Asp
			20					25					30		
Pro	Ala	Lys	Glu	Phe	Thr	Asn	His	Trp	Trp	Asn	Glu	Leu	Phe	Asn	Lys

```
<210> 4717
<211> 2753
<212> DNA
<213> Homo sapiens
```

```

<400> 4717
nggtacccgg tgtgatgggc cgcccactgg tctgcagagc ttcccaggct gcctgcaggc
60
cctgcacgtc cccggagttg gggctgtagc cctgcccata cactgcaatc cagcccacag
120
gctctgagtt ggggtgaaccg ggggtcccat agcgggtaac ttgggatggg ggggtacttg
180
ccagccaggc atccagctta gtggcaggcg ttgtgcgggc atcaaact agccaggggt
240
ccatgtcagc tgccatggcc tctgcagcca ggtgctcggc ggtgaagcca tcctcacggc
300
cacctggaga gccctcctct tccagctcct cacctggttc catcctgctc cggccttcgc
360
tgcgttcgac gccggcccag ccccgggccc ggctccgctc ctgccgtggc tccgcgcagc
420
atcctgggcc tcccccgct ttctgaggac agcatcaaag tgattcgcaa catgagagca
480
gcctctccac cagcatctgc ttcagacttg attgagcagc agcagaaacg gggccgccga
540
gagcacaagg ctctgataaa gcaggacaac ctagatgcct tcaacgagcg ggatccctac
600
aaggctgatg actctcgaga agaggaagag gagaatgatg atgacaacag tctggagggg
660

```

gagacgtttc ccctggaacg ggatgaagtg atgcctcccc cgctacagca cccacagact  
720  
gacaggctga cttgccccaa agggctcccc tgggctccca aggtcagaga gaaagacatt  
780  
gagatgttcc ttgagtcag ccgcagcaaa tttataggtt acactctagg cagtgcacg  
840  
aacacagtgg tggggctgcc caggccaatc cacgaaagca tcaagactct gaaacagcac  
900  
aagtacacgt cgattgcaga ggtccaggca cagatgaagg aggaatacct ccgctccccct  
960  
ctctcagggg gagaagaaga agttgagcaa gtccctgcag aaacctcta ccaaggcttg  
1020  
ctccccagcc tgcctcagta tatgattgcc ctccctgaaga tcctgttggc tgcagcacc  
1080  
acctcaaaag ccaaaacaga ctcaatcaac atcctagcgg acgtcttgcc tgaggagatg  
1140  
cccaccacag tgttgcagag catgaagctg ggggtggatg taaaccgcca caaagaggtc  
1200  
attgttaaag ccatttctgc tgccttgcctg ctgctgctta agcactttta agtgaaccat  
1260  
ttctaccagt ttgaatacat ggcccagcac ctgggtgttg ccaactgcat tcctttgatc  
1320  
ctaaagtctt tcaatcaaaa catcatgtcc tacatcactg ccaagaacag catttctgtc  
1380  
ctggattacc ctactgcgt ggtgcatgag ctgccagagc tgacggcgga gagtttgaa  
1440  
gcaggtgaca gtaaccaatt ttgctggagg aacctctttt cttgtatcaa tctgcttcgg  
1500  
atcttgaaca agctgacaaa gtggaagcat tcaaggacaa tgatgctggt ggtgttcaag  
1560  
tcagccccc tcttgaagcg ggccctaaag gtgaaacaag ccatgatgca gctctatgtg  
1620  
ctgaagctgc tcaagggtaca gaccaaatac ttggggcggc agtggcgaaa gagcaacatg  
1680  
aagaccatgt ctgccatcta ccagaagggtg cggcatcggc tgaacgacga ctgggcatac  
1740  
ggcaatgatc ttgatgcccg gccttgggac ttccaggcag aggagtgtgc cttctgtgcc  
1800  
aacattgaac gcttcaacgc ccggcgctat gaccggggcc acagcaaccc tgacttcctg  
1860  
ccagtggaca actgcctgca gagtgtcctg ggccaacggg tggacctccc tgaggacttt  
1920  
cagatgaact atgacctctg gttagaaagg gaggtcttct ccaagcccat ttcctgggaa  
1980  
gagctgctgc agtgaggctg ttggttaggg gactgaaatg gagagaaaag atgatctgaa  
2040  
ggtacctgtg ggactgtcct agttcattgc tgcagtgtc ccatccccc ccagggtggca  
2100  
gcacagcccc actgtgtctt ccgcagtctg tcctgggctt ggggtgagccc agcttgacct  
2160  
ccccttggtt ccaggggtcc tgcctcgaag cagtcatctc tgctgagat ccattcttcc  
2220  
tttacttccc ccacctcct ctcttgata tgggtgggtt tggctcattt cacaatcagc  
2280

ccaaggctgg gaaagctgga atgggatggg aaccctccg ccgtgcatct gaatttcagg  
 2340  
 ggatcatgctg atgcctctcg agacatacaa atccttgctt tgtcagcttg caaaggagga  
 2400  
 gagtttagga ttagggccag ggccagaaag tcggtatctt ggttggtgctc tgggggtggg  
 2460  
 gtggggtgtt tctgatgtta ttccagcctc ctgctacatt atatccagaa gtaattgcgg  
 2520  
 aggctccttc agctgcctca gcactttgat tttggacagg gacaaggtag gaagagaagc  
 2580  
 ttcccttaac cagagggggc atttttctt ttggctttcg agggcctgta aatatctata  
 2640  
 tataattctg tgtgtattct gtgtcatgtt ggggttttta atgtgattgt gtattctgtt  
 2700  
 tacattaataa agaagcaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa  
 2753

<210> 4718

<211> 259

<212> PRT

<213> Homo sapiens

<400> 4718

Met	Arg	Ala	Ala	Ser	Pro	Pro	Ala	Ser	Ala	Ser	Asp	Leu	Ile	Glu	Gln
1				5					10					15	
Gln	Gln	Lys	Arg	Gly	Arg	Arg	Glu	His	Lys	Ala	Leu	Ile	Lys	Gln	Asp
			20					25					30		
Asn	Leu	Asp	Ala	Phe	Asn	Glu	Arg	Asp	Pro	Tyr	Lys	Ala	Asp	Asp	Ser
			35					40					45		
Arg	Glu	Glu	Glu	Glu	Glu	Asn	Asp	Asp	Asp	Asn	Ser	Leu	Glu	Gly	Glu
			50				55					60			
Thr	Phe	Pro	Leu	Glu	Arg	Asp	Glu	Val	Met	Pro	Pro	Pro	Leu	Gln	His
65					70					75				80	
Pro	Gln	Thr	Asp	Arg	Leu	Thr	Cys	Pro	Lys	Gly	Leu	Pro	Trp	Ala	Pro
			85						90					95	
Lys	Val	Arg	Glu	Lys	Asp	Ile	Glu	Met	Phe	Leu	Glu	Ser	Ser	Arg	Ser
			100					105						110	
Lys	Phe	Ile	Gly	Tyr	Thr	Leu	Gly	Ser	Asp	Thr	Asn	Thr	Val	Val	Gly
			115				120					125			
Leu	Pro	Arg	Pro	Ile	His	Glu	Ser	Ile	Lys	Thr	Leu	Lys	Gln	His	Lys
			130				135					140			
Tyr	Thr	Ser	Ile	Ala	Glu	Val	Gln	Ala	Gln	Met	Lys	Glu	Glu	Tyr	Leu
145					150					155				160	
Arg	Ser	Pro	Leu	Ser	Gly	Gly	Glu	Glu	Glu	Val	Glu	Gln	Val	Pro	Ala
			165					170						175	
Glu	Thr	Leu	Tyr	Gln	Gly	Leu	Leu	Pro	Ser	Leu	Pro	Gln	Tyr	Met	Ile
			180					185					190		
Ala	Leu	Leu	Lys	Ile	Leu	Leu	Ala	Ala	Ala	Pro	Thr	Ser	Lys	Ala	Lys
			195				200						205		
Thr	Asp	Ser	Ile	Asn	Ile	Leu	Ala	Asp	Val	Leu	Pro	Glu	Glu	Met	Pro
			210				215						220		
Thr	Thr	Val	Leu	Gln	Ser	Met	Lys	Leu	Gly	Val	Asp	Val	Asn	Arg	His
225					230					235				240	
Lys	Glu	Val	Ile	Val	Lys	Ala	Ile	Ser	Ala	Ala	Leu	Leu	Leu	Leu	Leu

Lys His Phe

245

250

255

<210> 4719  
 <211> 589  
 <212> DNA  
 <213> Homo sapiens

<400> 4719  
 cgaacctggt cggcatggt ggacttccag gatgaggagc aggtcaagtc ctttttggag  
 60  
 aacatggagg tggagtgcaa ctaccactgc taccacgaga aggaccgga cggttgctat  
 120  
 cggctggtgg actatttga agggatccgg aagaattttg atgaggctgc caaggtgttg  
 180  
 aagtttaact gtgaagagaa ccagcacagt gatagctgct acaaactggg ggcctactat  
 240  
 gtgactggaa aaggtggtct gaccaggac ctgaaagctg ccgccagggtg ctttttggatg  
 300  
 gcgtgtgaga agcctggaaa gaagtcaata gcagcatgtc acaacgttgg cctcctggca  
 360  
 catgatggac aggttaatga ggatggccag cctgacttgg gaaaggccag ggactactac  
 420  
 acaagggcct gtgatggtgg ctatacttcc agttgcttca acctcagtgc catgttcctg  
 480  
 caggtgccc caggctttcc caaggacatg gacctggcat gtaaatactc catgaaagcc  
 540  
 tgtgacctgg gtcatatctg ggcctgtgcc aatgccagtc gcatgtaca  
 589

<210> 4720  
 <211> 196  
 <212> PRT  
 <213> Homo sapiens

<400> 4720  
 Arg Thr Met Ala Gly Met Val Asp Phe Gln Asp Glu Glu Gln Val Lys  
 1 5 10 15  
 Ser Phe Leu Glu Asn Met Glu Val Glu Cys Asn Tyr His Cys Tyr His  
 20 25 30  
 Glu Lys Asp Pro Asp Gly Cys Tyr Arg Leu Val Asp Tyr Leu Glu Gly  
 35 40 45  
 Ile Arg Lys Asn Phe Asp Glu Ala Ala Lys Val Leu Lys Phe Asn Cys  
 50 55 60  
 Glu Glu Asn Gln His Ser Asp Ser Cys Tyr Lys Leu Gly Ala Tyr Tyr  
 65 70 75 80  
 Val Thr Gly Lys Gly Gly Leu Thr Gln Asp Leu Lys Ala Ala Ala Arg  
 85 90 95  
 Cys Phe Leu Met Ala Cys Glu Lys Pro Gly Lys Lys Ser Ile Ala Ala  
 100 105 110  
 Cys His Asn Val Gly Leu Leu Ala His Asp Gly Gln Val Asn Glu Asp  
 115 120 125  
 Gly Gln Pro Asp Leu Gly Lys Ala Arg Asp Tyr Tyr Thr Arg Ala Cys

```
<210> 4721
<211> 1385
<212> DNA
<213> Homo sapiens
```

3903

ttcattcacc tcttacatct ctcaccctct cctttttttt ttcttttgatt ttccccctta  
 1200  
 ttgatgggac tgatattcat tctgtttttg atgaacattt ggaaactgtc gggcttttta  
 1260  
 ttaaagctct gtagaattaa aatgttctgg aattataagc aatctttgtt tctgagtgtt  
 1320  
 atttttattt tggatatagc tttgatgtaa ttaaactgga aactctttcc tcaaaaaaaaa  
 1380  
 agctt  
 1385

<210> 4722

<211> 285

<212> PRT

<213> Homo sapiens

<400> 4722

Met	Asn	Arg	Leu	Pro	Asp	Asp	Tyr	Asp	Pro	Tyr	Ala	Val	Glu	Glu	Pro
1				5					10					15	
Ser	Asp	Glu	Glu	Pro	Ala	Leu	Ser	Ser	Ser	Glu	Asp	Glu	Val	Asp	Val
			20					25					30		
Leu	Leu	His	Gly	Thr	Pro	Asp	Gln	Lys	Arg	Lys	Leu	Ile	Arg	Glu	Cys
		35					40					45			
Leu	Thr	Gly	Glu	Ser	Glu	Ser	Ser	Ser	Glu	Asp	Glu	Phe	Glu	Lys	Glu
	50					55				60					
Met	Glu	Ala	Glu	Leu	Asn	Ser	Thr	Met	Lys	Thr	Met	Glu	Asp	Lys	Leu
65					70				75					80	
Ser	Ser	Leu	Gly	Thr	Gly	Ser	Ser	Ser	Gly	Asn	Gly	Lys	Val	Ala	Thr
				85					90				95		
Ala	Pro	Thr	Arg	Tyr	Tyr	Asp	Asp	Ile	Tyr	Phe	Asp	Ser	Asp	Ser	Glu
			100					105					110		
Asp	Glu	Asp	Arg	Ala	Val	Gln	Val	Thr	Lys	Lys	Lys	Lys	Lys	Lys	Gln
	115						120						125		
His	Lys	Ile	Pro	Thr	Asn	Asp	Glu	Leu	Leu	Tyr	Asp	Pro	Glu	Lys	Asp
	130					135					140				
Asn	Arg	Asp	Gln	Ala	Trp	Val	Asp	Ala	Gln	Arg	Arg	Gly	Tyr	His	Gly
145					150				155					160	
Leu	Gly	Pro	Gln	Arg	Ser	Arg	Gln	Gln	Gln	Pro	Val	Pro	Asn	Ser	Asp
				165					170				175		
Ala	Val	Leu	Asn	Cys	Pro	Ala	Cys	Met	Thr	Thr	Leu	Cys	Leu	Asp	Cys
			180					185					190		
Gln	Arg	His	Glu	Ser	Tyr	Lys	Thr	Gln	Tyr	Arg	Ala	Met	Phe	Val	Met
	195						200					205			
Asn	Cys	Ser	Ile	Asn	Lys	Glu	Glu	Val	Leu	Arg	Tyr	Lys	Ala	Ser	Glu
	210					215					220				
Asn	Arg	Lys	Lys	Arg	Arg	Val	His	Lys	Lys	Met	Arg	Ser	Asn	Arg	Glu
225				230						235				240	
Asp	Ala	Ala	Glu	Lys	Ala	Glu	Thr	Asp	Val	Glu	Glu	Ile	Tyr	His	Pro
				245					250					255	
Val	Met	Cys	Thr	Glu	Cys	Ser	Thr	Glu	Val	Ala	Val	Tyr	Asp	Lys	Asp
			260					265					270		
Glu	Val	Phe	His	Phe	Phe	Asn	Val	Leu	Ala	Ser	His	Ser			
	275						280					285			



<210> 4723  
<211> 1213  
<212> DNA  
<213> Homo sapiens

<400> 4723  
tttttttttt tttttttttt tttttttttt ttttccggta tccactggaa gttttatttc  
60  
tttaggggttc tatcccaacc agtcgcttaa aaaccaagta acacagacct gaggggtggg  
120  
ggctgggggac tgcacctccc tcctactcat ggtggacagc agtggggact agggagggggc  
180  
aggagagggtg gctgacgccca ggcagcagca gcagtgatgg ggccacgacg ccacagagca  
240  
agctccatcc tccccagac cctgggtggga gtccctgtgg gttgggggtgg ggagtgggga  
300  
gaaccacccc caggccctcc ctctcccttc ccagacagt ctcttttcgg gctcaaccca  
360  
tttcttccgg caggagactg aggcacacag agaggaggaa gtgggagagg aggacgaggg  
420  
aggggcaggn gtggcagcac aaatgaaggc agaggtgaga ggcgtgggca aggccactcc  
480  
acccccacac ccaccccaga gaggggagag gaagccacac catcacgcag catgtcgggg  
540  
ggacaaggcg ggggtttaagg ctgagggggc ccggggcagg cgggcctcgg gcctcagtca  
600  
aagccgtgcc cagtcgctgt gctctgagtc gtattccagc tcggcgccca cacacttgac  
660  
accatccagc agcatgggag tgccgtgggt ccgggtccatg acgcgggcct gcaccgtcac  
720  
gcgcacacag gtgccagtgc caccttcgca ggctagcagt atctcctctt tgaggacgcc  
780  
ctctttgtgc gccgagtact cacacttgac actataacct tcagggacgg gcaccacgct  
840  
gaggagcttg aggtgcaggc tggggacagg tgccctgcgg acatccttgc tcagcctgtg  
900  
cactgggggc agagtgaagg taatctcata cctgtgcagg atcttcagga agccaacctt  
960  
gaccagaaag ctgctgtcac tctcctgggt gaccatgacc accgagtcac gcagcttctc  
1020  
atcaaagtgg acgtggctgt gggatccttc tgcacgtgg cctgccgcaa agcggatact  
1080  
ccggactctg ggcttgttgc ccttgttggc tgcagccatg gacgccctcc ctgccacgca  
1140  
gtccttgcca gacaccgcca ctcacgtca gcagcctccc atgctccagg gacaccagcg  
1200  
ggagccttgc tgt  
1213

<210> 4724  
<211> 54  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 4724

```

Met Gly Pro Arg Arg His Arg Ala Ser Ser Ile Leu Pro Gln Thr Leu
 1           5           10           15
Val Gly Val Pro Val Gly Trp Gly Gly Glu Trp Gly Glu Pro Thr Pro
      20           25           30
Gly Pro Pro Ser Pro Phe Pro Arg Gln Ser Pro Phe Gly Leu Asn Pro
      35           40           45
Phe Leu Pro Ala Gly Asp
      50

```

&lt;210&gt; 4725

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4725

```

nnctttcttg aaggtagaatt aggtagaagc cgtaggaccc ctgcaggggg gagagggggc
60
atgcttgcaa tagacacggc ttcagacatc ctggcacatg tccacgtgta ctctgcctg
120
tgcgcatgtg cacgtgtgta tatgcatatg tgcacagggtg cctgtgcctg tgtgaacaca
180
tggtctcacg tgtgtacctg cntctcttgc ccatgcntgt acgtgcacac gtgcctctgt
240
atgcatgcat gtatagctgt gtgcccatc cctcacgtga gaatacatat gcgcttgtgc
300
cttcacctct gcatgcatgc tagtgtgctc ctgcgtgcat ggggtgtgcat ctgtgcctgc
360
acgcgt
366

```

&lt;210&gt; 4726

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4726

```

Xaa Phe Leu Glu Gly Glu Leu Gly Arg Ser Arg Arg Thr Pro Ala Gly
 1           5           10           15
Gly Arg Gly Ala Met Leu Ala Ile Asp Thr Ala Ser Asp Ile Leu Ala
      20           25           30
His Val His Val Tyr Ser Arg Leu Cys Ala Cys Ala Arg Val Tyr Met
      35           40           45
His Met Cys Thr Gly Ala Cys Ala Cys Val Asn Thr Cys Ser His Val
      50           55           60
Cys Thr Cys Xaa Ser Cys Pro Cys Xaa Tyr Val His Thr Cys Leu Cys
      65           70           75           80
Met His Ala Cys Ile Ala Val Cys Pro Tyr Pro His Val Arg Ile His
      85           90           95
Met Arg Leu Cys Leu His Leu Cys Met His Ala Ser Val Leu Leu Arg
      100           105           110
Ala Trp Val Cys Ile Cys Ala Cys Thr Arg
      115           120

```

&lt;210&gt; 4727

&lt;211&gt; 2031

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4727

tttttttttt gagacggagt ccacacccgt cacctgggct ggagtgcaat ggtgtgatct  
60  
cagctcactg caacctctgt ctctggggtt cacatgattc tcctgcctca gcctcccaag  
120  
tagctgggat tacagggacc caccaccaca cccggctaata tttttttgta tttttactag  
180  
agacgggggtt tcactatggt ggccagactg gtctcgaact cctaacctca tgatccgctc  
240  
actttggcct cccaaagtgc tgggattaca gccgtgagcc accgcacctg gtctgcgttc  
300  
acttacttct tcacttcttc gatggcctcc ggcaaccggc ggcagggtgg aagtagcagg  
360  
gagactgcca gtctggcggt ggtatctgtc aggacatctg ggggtgtagcc aactcggatc  
420  
ccacgcttct tgatttcac caaagccaag tggtcgatgc ccacagacat ggtgctgatg  
480  
actttgagat tggccccggc ccagctacat tcccggggcca gcttctgtac tgccagggtc  
540  
gggtcggcgg ctgcactgcg gatgagaccg gtgcgactca tgaagggtgt cgtcaccgcg  
600  
aggatacccg ccgagggtag ggtcgcgctc gcccgggcgg cagactgtga ggtggagcag  
660  
tgggactcgg atgagcccat ccctgccaaag gagctagagc gaggtgtggc gggggccac  
720  
ggcctgctct gcctcctctc cgaccacgtg gacaagagga tcctggatgc tgcaggggccc  
780  
aatctcaaag tcatcagcac catgtctgtg ggcatcgacc acttggtttt ggatgaaatc  
840  
aagaagcgtg ggatccgagt tggctacacc ccagatgtcc tgacagatac caccgccgaa  
900  
ctcgcagtct ccctgtact taccacctgc cgccgggttc cggaggccat cgaggaagtg  
960  
aagaatggtg gctggacctc gtggaagccc ctctggctgt gtggctatgg actcacgcag  
1020  
agcactgtcg gcatcatcgg gctggggcgc ataggccagg ccattgctcg gcgtctgaaa  
1080  
ccattcgggtg tccagagatt tctgtacaca gggcgccagc ccaggcctga ggaagcagcg  
1140  
gaattccagg cagagtttgt gtctaccctt gagctggctg cccaatctga tttcatcgtc  
1200  
gtggcctgct ccttaacacc tgcaaccgag ggactctgca acaaggactt cttccagaag  
1260  
atgaaggaaa cagctgtggt catcaacatc agcaggggcg acgtcgtaaa ccaggacgac  
1320  
ctgtaccagg ccttgggccag tggtaagatt gcagctgctg gactggatgt gacgagccca  
1380  
gaaccactgc ctacaaacca ccctctcctg accctgaaga actgtgtgat tctgccccac  
1440

attggcagtg ccaccacag aacccgcaac accatgtcct tgttggcagc taacaacttg  
 1500  
 ctggctggcc tgagagggga gccgatgcct agtgaactca agctgtagcc aaacagtaga  
 1560  
 gatggagggc cggaagcaa accgtgccct ggtattgtca gacacacca ggcttgattt  
 1620  
 ggatccacag gcagagcaa gggaaggtgt gattctctga ggaaagagtg attctgatat  
 1680  
 atgtacttgg cgcaaagtgt tccaacacca atgtgacaga ctgaccccaa caccctccag  
 1740  
 tcacaacaac tcacgtggac tgtcctccct cagggttcc aggatagcct tcttttcttc  
 1800  
 gggcaagccc tagcccaaga ccttgccctc ttggatcttt ccccagccg ccttcttcaa  
 1860  
 tatctagatg acctccttct ctgtagcccc tccctaaaaa actcccaaac tcacactgcc  
 1920  
 acccttctga atttccttac taataaaggc tatagggtct cccctttaa gaacagcttt  
 1980  
 ccaccctac cgggacctac ttaggagttc aaccttcccc cgggtctcga g  
 2031

&lt;210&gt; 4728

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4728

Met Arg Pro Val Arg Leu Met Lys Val Phe Val Thr Arg Arg Ile Pro  
 1 5 10 15  
 Ala Glu Gly Arg Val Ala Leu Ala Arg Ala Ala Asp Cys Glu Val Glu  
 20 25 30  
 Gln Trp Asp Ser Asp Glu Pro Ile Pro Ala Lys Glu Leu Glu Arg Gly  
 35 40 45  
 Val Ala Gly Ala His Gly Leu Leu Cys Leu Leu Ser Asp His Val Asp  
 50 55 60  
 Lys Arg Ile Leu Asp Ala Ala Gly Ala Asn Leu Lys Val Ile Ser Thr  
 65 70 75 80  
 Met Ser Val Gly Ile Asp His Leu Ala Leu Asp Glu Ile Lys Lys Arg  
 85 90 95  
 Gly Ile Arg Val Gly Tyr Thr Pro Asp Val Leu Thr Asp Thr Thr Ala  
 100 105 110  
 Glu Leu Ala Val Ser Leu Leu Leu Thr Thr Cys Arg Arg Leu Pro Glu  
 115 120 125  
 Ala Ile Glu Glu Val Lys Asn Gly Gly Trp Thr Ser Trp Lys Pro Leu  
 130 135 140  
 Trp Leu Cys Gly Tyr Gly Leu Thr Gln Ser Thr Val Gly Ile Ile Gly  
 145 150 155 160  
 Leu Gly Arg Ile Gly Gln Ala Ile Ala Arg Arg Leu Lys Pro Phe Gly  
 165 170 175  
 Val Gln Arg Phe Leu Tyr Thr Gly Arg Gln Pro Arg Pro Glu Glu Ala  
 180 185 190  
 Ala Glu Phe Gln Ala Glu Phe Val Ser Thr Pro Glu Leu Ala Ala Gln  
 195 200 205  
 Ser Asp Phe Ile Val Val Ala Cys Ser Leu Thr Pro Ala Thr Glu Gly

210		215		220
Leu Cys Asn Lys Asp Phe Phe Gln Lys Met Lys Glu Thr Ala Val Phe				
225		230		235
Ile Asn Ile Ser Arg Gly Asp Val Val Asn Gln Asp Asp Leu Tyr Gln				240
	245		250	255
Ala Leu Ala Ser Gly Lys Ile Ala Ala Ala Gly Leu Asp Val Thr Ser				
	260		265	270
Pro Glu Pro Leu Pro Thr Asn His Pro Leu Leu Thr Leu Lys Asn Cys				
	275		280	285
Val Ile Leu Pro His Ile Gly Ser Ala Thr His Arg Thr Arg Asn Thr				
	290		295	300
Met Ser Leu Leu Ala Ala Asn Asn Leu Leu Ala Gly Leu Arg Gly Glu				
305		310		315
Pro Met Pro Ser Glu Leu Lys Leu				320
	325			

&lt;210&gt; 4729

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4729

```

ngctagcagc agcccgacca cgcgttaccg cacgctcgcg cctttccctt gacacggcgg
60
acgccggagg attggggcgg caatttgtct tttccttttt tattaaaatt atttttcctg
120
cctgttggtg gatttgggga aattttttgt ttgtttttta tgatttgtat ttgactgaga
180
gaaaccact gaagacgtct gcgtgagaat agagaccacc gaggccgact cgcgggcccgc
240
tgcaccacc gccaaaggaca aaaggagccc agcgtacta gctgcaccg attcctccca
300
gtgcttagca tgaagaaggc cgaaatggga cgattcagta tttccccgga tgaagacagc
360
agcagctaca gttccaacag cgacttcaac tactcctacc ccaccaagca agctgctctg
420
aaaagccatt atgcagatgt agatcctgaa aaccagaact ttttacttga atcgaatttg
480
gggaagaaga agtatgaaac agaatttcat ccagggtacta cttccttttg aatgtcagta
540
tttaatctga gcaatgcgat tgtgggcagt ggaatccttg ggctttctta tgccatggct
600
aatactggaa ttgctctttt tataattctc ttgacatttg tgtcaatatt ttccctgtat
660
tctgttcac tccttttgaa gactgccaat gaaggagggt ctttattata tgaacaattg
720
ggatataagg catctggatt agttggaaaag ctt
753

```

&lt;210&gt; 4730

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4730

Met Lys Lys Ala Glu Met Gly Arg Phe Ser Ile Ser Pro Asp Glu Asp  
 1 5 10 15  
 Ser Ser Ser Tyr Ser Ser Asn Ser Asp Phe Asn Tyr Ser Tyr Pro Thr  
 20 25 30  
 Lys Gln Ala Ala Leu Lys Ser His Tyr Ala Asp Val Asp Pro Glu Asn  
 35 40 45  
 Gln Asn Phe Leu Leu Glu Ser Asn Leu Gly Lys Lys Lys Tyr Glu Thr  
 50 55 60  
 Glu Phe His Pro Gly Thr Thr Ser Phe Gly Met Ser Val Phe Asn Leu  
 65 70 75 80  
 Ser Asn Ala Ile Val Gly Ser Gly Ile Leu Gly Leu Ser Tyr Ala Met  
 85 90 95  
 Ala Asn Thr Gly Ile Ala Leu Phe Ile Ile Leu Leu Thr Phe Val Ser  
 100 105 110  
 Ile Phe Ser Leu Tyr Ser Val His Leu Leu Leu Lys Thr Ala Asn Glu  
 115 120 125  
 Gly Gly Ser Leu Leu Tyr Glu Gln Leu Gly Tyr Lys Ala Ser Gly Leu  
 130 135 140  
 Val Gly Lys Leu  
 145

&lt;210&gt; 4731

&lt;211&gt; 2417

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4731

tttttttttt ttttttcagac aaggtacat tttattcctt ataaaatata tttcatattg  
 60  
 ttgctgtaaa aacattacat ttcacatttt taaaaaattt ttttaacagta aaaataatac  
 120  
 ttggaagaca gctgaggaaa aaggcgccaa taagacaaac tcacagatgg gatttatctc  
 180  
 cctcttgctt tttttttttt tttttgcccc tggtaaaagt cagaacctgg gatgaccaga  
 240  
 aagtaacagg acagatttct cccagcaaat cagtctccac aaccaaataga atattgttct  
 300  
 ccaaggagtc aagctataga ctcacaatga caacgtggcc atggctcaaa acactctctg  
 360  
 aaattacaaa attgctttct gagccaattt aaaagtcaca tgattgaatc caagctattt  
 420  
 tactttaaat ggtccttttg ctttgacct gagacctcgc ttggccacag acgtcattcg  
 480  
 ctggactccc tgggcactaa atgagtgtct agcatcctta aggctgctca acacacagcc  
 540  
 ccgactctg aatatgattc caagaaatat tctgaaaaaa gtcacatcgc tggaataaac  
 600  
 agtttcccaa gataactgct ttgaaaacca gtcccgtag tttctaaaag cccacctacg  
 660  
 gcaccttctt tccatcagag tctgctgccc ggggtgggctg ggaaggaggg agatacaaag  
 720  
 aagaaagtag gcatgatcac tgggtcggtt cccaagccac cctcaccctc caagaaggca  
 780

tgaatggaac aaccccgaga acagagcacg tgtgaagaac caacacgaca ggcacgggat  
840  
ggcagcactg gtggaaggga ggcaaggagg ccgccagtgc caaggaggag agggggcaca  
900  
agcgcaggca ggggaagggtg caccaaaacc tagtaagaac aaagcaaaac caccgtgggt  
960  
tccacactgc tctctccctt tattectctc ttctctgcc tgtataccaa cggcataaga  
1020  
agcctgcaca aagagaaaaa tccgtatatc cagttatatc tacacgggtcc aaactggggg  
1080  
cggggggaat tcaaacagct ttctaaagac gagacggcag tgaaaactct gagggagagg  
1140  
ggaaggggag gccctcctga gcgaagttcc catgtgtcaa gaacgtgccc tcccctcccc  
1200  
atgaggacct gaagctgggg gttgtcttgg gaagtggagg ggggtgggaa acaccatcag  
1260  
cagctgccag ctcttaattc tcaaggagat cgaagggaca ggaaggagag ccctgcgcca  
1320  
cctcaggcta gcctggcttt gagctttacc aagagacaga attccacata catttttttt  
1380  
ttttactaa gttataaaaa aaaaaacccc atcaccaaag acacctgtgc acaagtgtct  
1440  
gtcccttctg tcaccaacct agggcactac acccttccca acatcatgac cctactgcca  
1500  
ggtctacaga ttttgaaca ctcaaagtgt cctgcattaa aaagcacgtg tctatttct  
1560  
acgtgaagg gccaaggag ccctggtggc ccaaatatct tcaccagga ctgggagggc  
1620  
ggcctcgatg acaaccaagg ggtggatgct gacactccat cccaggacag gtggctgggt  
1680  
aggattccct gagcccctga cagctgggac atagggccag gacttgtagc cgaggcagct  
1740  
gggcagtggg cagtcacatt ccagtaggcc ctgaggaatc cccaaataag tcacgtggg  
1800  
aggaaagtga gacacaaaaa cagaaacatg ccctgccatc cgggcgtggc tcaactctgtc  
1860  
ttcgcgagg gctggttggc atggtgttac actcccgaga cctccctcct tctccccaag  
1920  
aacagctctg cttatcgaca tgcacgcagc ccaggctccc ctatagccct ggagggtcca  
1980  
gaaacaccaa gggccaaaac gccagcagcc actaaccaa acccacgtct tcctcctgtc  
2040  
atttctcat cctgacgtc acgggtgcaa ggactctcct tggccttct catcctgctt  
2100  
tcaggcagca aacagaaatg gggaaatccc tgggtggggc aggagacaga aaggaacctc  
2160  
cagaacctcc ctgggtctct cccggccacc caaataaaag aaaactttaa tcagtaaagg  
2220  
cttctgaata catcgtaaaa gaaaacaaag catttctgag gcgtcctttc aataaccgga  
2280  
ggaaggcggc gtcaggaggg tgcttctctg ggtcagagca gagagtttcc agacgtcaa  
2340  
accctccagg agttctctga ggaaagagga gagaatgatc aaggtagtgt ttaactgcca  
2400

cattccaaaa agtgaat  
2417

<210> 4732  
<211> 129  
<212> PRT  
<213> Homo sapiens

<400> 4732  
Met Ser Ile Ser Arg Ala Val Leu Gly Glu Lys Glu Gly Gly Leu Gly  
1 5 10 15  
Ser Val Ala Pro Cys Gln Pro Ala Leu Arg Glu Asp Arg Val Ser His  
20 25 30  
Ala Arg Met Ala Gly His Val Ser Val Leu Val Ser His Phe Pro Pro  
35 40 45  
Ser Val Thr Tyr Leu Gly Ile Pro Gln Gly Leu Leu Glu Cys Asp Cys  
50 55 60  
Pro Leu Pro Ser Cys Leu Gly Tyr Lys Ser Trp Pro Tyr Val Pro Ala  
65 70 75 80  
Val Arg Gly Ser Gly Asn Pro Thr Gln Pro Pro Val Leu Gly Trp Ser  
85 90 95  
Val Ser Ile His Pro Leu Val Val Ile Glu Ala Ala Leu Pro Val Leu  
100 105 110  
Gly Glu Asp Ile Trp Ala Thr Arg Ala Pro Leu Ala Pro Ser Arg Arg  
115 120 125  
Lys

<210> 4733  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 4733  
nntccggagc tgctgggtact cccgattgga gacgtagaac cggtacttgt cgagggcctt  
60  
agcggccgcc gtgacctct cggggatccc acgatgttct tctacctgag caagaaaatt  
120  
tccattccca ataacgtgaa gctgcagtgt gtatcctgga acaaggaaca agggttcata  
180  
gcatgcggtg gtgaagatgg attactgaaa gttttgaaat tagagacgca gacagatgat  
240  
gcaaaattga ggggccttgc agccccagc aacctttcta tgaatcagac tcttgaaggt  
300  
catagtgggt ctgttcaagt tgtaacatgg atgagcagt atcagaagtt gactaccagt  
360  
gatgaaaacg ggcttatcat tgtgtggatg ttatataaag gctcttgat tgaggagatg  
420  
atcaacaatc gaaataaatc agttgttcgc agtatgagct ggaatgctga cggacagaag  
480  
atctgcattg tatatgaaga tggggctgtg atagttggtt cagtggatgg caatcgatt  
540  
tgg  
543



<210> 4734  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 4734  
 Xaa Pro Glu Leu Leu Val Leu Pro Ile Gly Asp Val Glu Pro Leu Leu  
 1 5 10 15  
 Val Glu Gly Leu Ser Gly Arg Arg Asp Pro Leu Gly Asp Pro Thr Met  
 20 25 30  
 Phe Phe Tyr Leu Ser Lys Lys Ile Ser Ile Pro Asn Asn Val Lys Leu  
 35 40 45  
 Gln Cys Val Ser Trp Asn Lys Glu Gln Gly Phe Ile Ala Cys Gly Gly  
 50 55 60  
 Glu Asp Gly Leu Leu Lys Val Leu Lys Leu Glu Thr Gln Thr Asp Asp  
 65 70 75 80  
 Ala Lys Leu Arg Gly Leu Ala Ala Pro Ser Asn Leu Ser Met Asn Gln  
 85 90 95  
 Thr Leu Glu Gly His Ser Gly Ser Val Gln Val Val Thr Trp Asn Glu  
 100 105 110  
 Gln Tyr Gln Lys Leu Thr Thr Ser Asp Glu Asn Gly Leu Ile Ile Val  
 115 120 125  
 Trp Met Leu Tyr Lys Gly Ser Trp Ile Glu Glu Met Ile Asn Asn Arg  
 130 135 140  
 Asn Lys Ser Val Val Arg Ser Met Ser Trp Asn Ala Asp Gly Gln Lys  
 145 150 155 160  
 Ile Cys Ile Val Tyr Glu Asp Gly Ala Val Ile Val Gly Ser Val Asp  
 165 170 175  
 Gly Asn Arg Ile Trp  
 180

<210> 4735  
 <211> 300  
 <212> DNA  
 <213> Homo sapiens

<400> 4735  
 ntggtcttct cagtacagca tgggtggctgg ggcaggccga gagaatggca tggagacgcc  
 60  
 gatgcacgag aaccggagt gggagaaggc ccgtcaggcc ctggccagca tcagcaagtc  
 120  
 aggagctgcc ggcggctctg ccaagtccag cagcaatggg cctgtggcca gtgcacagta  
 180  
 cgtgtcccag gcaaaagcct cagctttgca gcagcagcag tactaccagt ggtaccagca  
 240  
 ggacaactat gcctaccct acagtacta ctatcccatg cccccaggcc ccggcatgga  
 300

<210> 4736  
 <211> 93  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4736

```

Met Val Ala Gly Ala Gly Arg Glu Asn Gly Met Glu Thr Pro Met His
 1           5           10           15
Glu Asn Pro Glu Trp Glu Lys Ala Arg Gln Ala Leu Ala Ser Ile Ser
      20           25           30
Lys Ser Gly Ala Ala Gly Gly Ser Ala Lys Ser Ser Ser Asn Gly Pro
      35           40           45
Val Ala Ser Ala Gln Tyr Val Ser Gln Ala Lys Ala Ser Ala Leu Gln
      50           55           60
Gln Gln Gln Tyr Tyr Gln Trp Tyr Gln Gln Asp Asn Tyr Ala Tyr Pro
65           70           75           80
Tyr Ser Tyr Tyr Tyr Pro Met Pro Pro Gly Pro Gly Met
      85           90

```

&lt;210&gt; 4737

&lt;211&gt; 2602

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4737

```

cctagggggc tctcgcggtt ggggaacata gatggctgaa gacagaatct agagccttca
60
aataatgtgg agatgtttcc accttcaggt tccactgggc tgattcccc ctccacttt
120
caagctcggc ccctttcaac tctgccaaga atggctccca cctggctctc agacattccc
180
ctgggtccaac cccaggcca tcaagatgtc tcagagaggc ggctagacac ccagagacct
240
caagtgacca tgtgggaacg ggatgtttcc agtgacaggc aggagccagg gcggagaggc
300
aggtcctggg ggctggaggg gtcacaggcc ctgagccagc aggctgaggt gatcgttcgg
360
cagctgcaag agctgcggcg gctggaggag gaggtccggc tcctgcggga gacctcgctg
420
cagcagaaga tgaggctaga ggcccaggcc atggagctag aggctctggc acgggcggag
480
aaggccggcc gagctgagge tgagggcctg cgtgctgctt tggctggggc tgaggttgct
540
cggaagaact tggaagaggg gaggcagcgg gagctggaag aggttcagag gctgcaccaa
600
gagcagctgt cctctttgac acaggctcac gaggaggctc tttccagttt gaccagcaag
660
gctgagggct tggagaagtc tctgagtagt ctggaaacca gaagagcagg ggaagccaag
720
gagctggccg aggtcagag ggaggccgag ctgcttcgga agcagctgag caagaccag
780
gaagacttgg aggtcaggt gaccctggtt gagaatctaa gaaaatatgt tggggaacaa
840
gtcccttctg aggtccacag ccagacatgg gaactggagc gacagaagct tctggaaacc
900
atgcagctct tgcaggagga ccgggacagc ctgcatgcca ccgaggagct gctgcagggt
960
cgggtgcaga gcctcacaca catcctcgcc ctgcaggagg aggagctgac caggaaggtt
1020

```

caaccttcag attccctgga gcctgagttt accaggaagt gccagtcctt gctgaaccgc  
1080  
tggcgggaga aggtgtttgc cctcatggtg cagctaaagg cccaggagct ggaacacagt  
1140  
gactctgtta agcagctgaa gggacaggtg gcctcactcc aggaaaaagt gacatcccag  
1200  
agccaggagc aggccatcct gcagcgatcc ctgcaggaca aagccgcaga ggtggagggtg  
1260  
gagcgtatgg gtgccaaagg cctgcagttg gagctgagcc gtgctcagga ggccaggcgt  
1320  
tgggtggcagc agcagacagc ctcagccgag gagcagctga ggcttgtggt caatgctgtc  
1380  
agcagctctc agatctggct cgagaccacc atggctaagg tggaaggggc tgccgcccag  
1440  
cttcccagcc tcaacaaccg actcagctat gctgtccgca aggtccacac cattcggggc  
1500  
ctgattgttc gaaagcttgc ccttgctcag ctgcgccagg agagctgtcc cctaccacca  
1560  
ccggtcacag atgtgagcct tgagttgcag cagttgcggg aagaacggaa ccgcctggat  
1620  
gcagaactgc agctgagtgc ccgcctcatc cagcaggagg tgggccgggc tcgggagcaa  
1680  
ggggaggcag agcggcagca gctgagcaag gtggcccagc agctggagca ggagctgcag  
1740  
cagaccagc agtccctggc tagcttgggg ctgcagctgg aggtagcacg ccagggccag  
1800  
caggagagca cagaggaggc tgccagtctg cggcaggagc tgaccagca gcaggaactc  
1860  
tacgggcaag ccctgcaaga aaaggtggct gaagtggaaa ctcggtgctg ggagcaactc  
1920  
tcagacacag agaggaggct gaacgaggct cggagggagc atgccaaggc cgtggtctcc  
1980  
ttgcgccaga ttcagcgcag agccgccag gaaaaggagc ggagccagga actcaggcgt  
2040  
ctgcaggagg aggcccggaa ggaggagggg cagcgactgg cccggcgctt gcaggagcta  
2100  
gagagggata agaacctcat gctggccacc ttgcagcagg aaggtctcct ctcccgttac  
2160  
aagcagcagc gactgttgac agttcttctt tccctactgg ataagaagaa atctgtggtg  
2220  
tccagcccca ggctccaga gtgttcagca tctgcacctg tagcagcagc agtgcaccac  
2280  
agggagtcca taaaagggtc cctctctgtc ctgctcgatg acctgcagga cctgagtga  
2340  
gccatttcca aagaggaagc tgtttgtcaa ggagacaacc ttgacagatg ctccagctcc  
2400  
aatccccaga tgagcagcta agcagctgac agttggaggg aaagccagcc tgggggctgg  
2460  
gaggatcctg gagaagtggg tggggacaga ccagcccttc cccatcctgg ggttgccctg  
2520  
ggggatacca gctgagtctg aattctgtc taaataaaga cgactacaga aggaaaaaaaa  
2580  
aaaaaaaaaa aaaaaaaaaa aa  
2602

&lt;210&gt; 4738

&lt;211&gt; 756

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4738

```

Met Ala Pro Thr Trp Leu Ser Asp Ile Pro Leu Val Gln Pro Pro Gly
 1           5           10           15
His Gln Asp Val Ser Glu Arg Arg Leu Asp Thr Gln Arg Pro Gln Val
      20           25           30
Thr Met Trp Glu Arg Asp Val Ser Ser Asp Arg Gln Glu Pro Gly Arg
      35           40           45
Arg Gly Arg Ser Trp Gly Leu Glu Gly Ser Gln Ala Leu Ser Gln Gln
      50           55           60
Ala Glu Val Ile Val Arg Gln Leu Gln Glu Leu Arg Arg Leu Glu Glu
      65           70           75           80
Glu Val Arg Leu Leu Arg Glu Thr Ser Leu Gln Gln Lys Met Arg Leu
      85           90           95
Glu Ala Gln Ala Met Glu Leu Glu Ala Leu Ala Arg Ala Glu Lys Ala
      100           105           110
Gly Arg Ala Glu Ala Glu Gly Leu Arg Ala Ala Leu Ala Gly Ala Glu
      115           120           125
Val Val Arg Lys Asn Leu Glu Glu Gly Arg Gln Arg Glu Leu Glu Glu
      130           135           140
Val Gln Arg Leu His Gln Glu Gln Leu Ser Ser Leu Thr Gln Ala His
      145           150           155           160
Glu Glu Ala Leu Ser Ser Leu Thr Ser Lys Ala Glu Gly Leu Glu Lys
      165           170           175
Ser Leu Ser Ser Leu Glu Thr Arg Arg Ala Gly Glu Ala Lys Glu Leu
      180           185           190
Ala Glu Ala Gln Arg Glu Ala Glu Leu Leu Arg Lys Gln Leu Ser Lys
      195           200           205
Thr Gln Glu Asp Leu Glu Ala Gln Val Thr Leu Val Glu Asn Leu Arg
      210           215           220
Lys Tyr Val Gly Glu Gln Val Pro Ser Glu Val His Ser Gln Thr Trp
      225           230           235           240
Glu Leu Glu Arg Gln Lys Leu Leu Glu Thr Met Gln Leu Leu Gln Glu
      245           250           255
Asp Arg Asp Ser Leu His Ala Thr Ala Glu Leu Leu Gln Val Arg Val
      260           265           270
Gln Ser Leu Thr His Ile Leu Ala Leu Gln Glu Glu Glu Leu Thr Arg
      275           280           285
Lys Val Gln Pro Ser Asp Ser Leu Glu Pro Glu Phe Thr Arg Lys Cys
      290           295           300
Gln Ser Leu Leu Asn Arg Trp Arg Glu Lys Val Phe Ala Leu Met Val
      305           310           315           320
Gln Leu Lys Ala Gln Glu Leu Glu His Ser Asp Ser Val Lys Gln Leu
      325           330           335
Lys Gly Gln Val Ala Ser Leu Gln Glu Lys Val Thr Ser Gln Ser Gln
      340           345           350
Glu Gln Ala Ile Leu Gln Arg Ser Leu Gln Asp Lys Ala Ala Glu Val
      355           360           365
Glu Val Glu Arg Met Gly Ala Lys Gly Leu Gln Leu Glu Leu Ser Arg

```

370 375 380  
 Ala Gln Glu Ala Arg Arg Trp Trp Gln Gln Gln Thr Ala Ser Ala Glu  
 385 390 395 400  
 Glu Gln Leu Arg Leu Val Val Asn Ala Val Ser Ser Ser Gln Ile Trp  
 405 410 415  
 Leu Glu Thr Thr Met Ala Lys Val Glu Gly Ala Ala Ala Gln Leu Pro  
 420 425 430  
 Ser Leu Asn Asn Arg Leu Ser Tyr Ala Val Arg Lys Val His Thr Ile  
 435 440 445  
 Arg Gly Leu Ile Ala Arg Lys Leu Ala Leu Ala Gln Leu Arg Gln Glu  
 450 455 460  
 Ser Cys Pro Leu Pro Pro Pro Val Thr Asp Val Ser Leu Glu Leu Gln  
 465 470 475 480  
 Gln Leu Arg Glu Glu Arg Asn Arg Leu Asp Ala Glu Leu Gln Leu Ser  
 485 490 495  
 Ala Arg Leu Ile Gln Gln Glu Val Gly Arg Ala Arg Glu Gln Gly Glu  
 500 505 510  
 Ala Glu Arg Gln Gln Leu Ser Lys Val Ala Gln Gln Leu Glu Gln Glu  
 515 520 525  
 Leu Gln Gln Thr Gln Glu Ser Leu Ala Ser Leu Gly Leu Gln Leu Glu  
 530 535 540  
 Val Ala Arg Gln Gly Gln Gln Glu Ser Thr Glu Glu Ala Ala Ser Leu  
 545 550 555 560  
 Arg Gln Glu Leu Thr Gln Gln Gln Glu Leu Tyr Gly Gln Ala Leu Gln  
 565 570 575  
 Glu Lys Val Ala Glu Val Glu Thr Arg Leu Arg Glu Gln Leu Ser Asp  
 580 585 590  
 Thr Glu Arg Arg Leu Asn Glu Ala Arg Arg Glu His Ala Lys Ala Val  
 595 600 605  
 Val Ser Leu Arg Gln Ile Gln Arg Arg Ala Ala Gln Glu Lys Glu Arg  
 610 615 620  
 Ser Gln Glu Leu Arg Arg Leu Gln Glu Glu Ala Arg Lys Glu Glu Gly  
 625 630 635 640  
 Gln Arg Leu Ala Arg Arg Leu Gln Glu Leu Glu Arg Asp Lys Asn Leu  
 645 650 655  
 Met Leu Ala Thr Leu Gln Gln Glu Gly Leu Leu Ser Arg Tyr Lys Gln  
 660 665 670  
 Gln Arg Leu Leu Thr Val Leu Pro Ser Leu Leu Asp Lys Lys Lys Ser  
 675 680 685  
 Val Val Ser Ser Pro Arg Pro Pro Glu Cys Ser Ala Ser Ala Pro Val  
 690 695 700  
 Ala Ala Ala Val Pro Thr Arg Glu Ser Ile Lys Gly Ser Leu Ser Val  
 705 710 715 720  
 Leu Leu Asp Asp Leu Gln Asp Leu Ser Glu Ala Ile Ser Lys Glu Glu  
 725 730 735  
 Ala Val Cys Gln Gly Asp Asn Leu Asp Arg Cys Ser Ser Ser Asn Pro  
 740 745 750  
 Gln Met Ser Ser  
 755

&lt;210&gt; 4739

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4739

gtgcacatgg ggtgcattag gcttgatttg tactctgcag actatggggg aagctgagga  
 60  
 ggaagacttg accagtcttg gtgatgagaa ggccttcacc ctatgaacac aaccaagtct  
 120  
 tagccctctc tcctgctcct ttaaactctg aacttctagg atgggagaat gggaactttt  
 180  
 gcaggttgag attcatagtg aaatcgggtc aagaagtgat cagatgcaaa gcacagggca  
 240  
 gttcattact ataccatggc tgaggtcttc ctgggcacca ggccctgggc tcagcacttg  
 300  
 gctcagtctg caccttggac cctgccagag ccctccacag caggtgctct caggcaaggc  
 360  
 tgtgtgttgc tggccagacg ccttctgacc agcgtgcttt cttgaccaca gatcccttgg  
 420  
 ccaagcagga gggaaccatt agcagcctga ggagctggct ggctgggagc ctcggggacc  
 480  
 gccagcctt gctcccagct caccacaag atgtggacag ctcttgtgct catttggatt  
 540  
 ttctccttgt ccttatctga aagccatgcg gcatccaacg atccacgtaa gtgagaaagc  
 600  
 tgtgtgactg ctggatgggc ccacggtggc cacaaagcat gctgagccct tgaaagcagc  
 660  
 atctgcaaac ccaggccaac gcgt  
 684

&lt;210&gt; 4740

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4740

Met	Leu	Leu	Ser	Arg	Ala	Gln	His	Ala	Leu	Trp	Pro	Pro	Trp	Ala	His
1				5					10					15	
Pro	Ala	Val	Thr	Gln	Leu	Ser	His	Leu	Arg	Gly	Ser	Leu	Asp	Ala	Ala
			20					25					30		
Trp	Leu	Ser	Asp	Lys	Asp	Lys	Glu	Lys	Ile	Gln	Met	Ser	Thr	Arg	Ala
		35				40					45				
Val	His	Ile	Leu	Trp	Val	Ser	Trp	Glu	Gln	Gly	Trp	Ala	Val	Pro	Glu
	50				55					60					
Ala	Pro	Ser	Gln	Pro	Ala	Pro	Gln	Ala	Ala	Asn	Gly	Ser	Leu	Leu	Leu
65				70					75				80		
Gly	Gln	Gly	Ile	Cys	Gly	Gln	Glu	Ser	Thr	Leu	Val	Arg	Arg	Arg	Leu
			85					90					95		
Ala	Ser	Asn	Thr	Gln	Pro	Cys	Leu	Arg	Ala	Pro	Ala	Val	Glu	Gly	Ser
		100					105					110			
Gly	Arg	Val	Gln	Gly	Ala	Asp									

&lt;210&gt; 4741

&lt;211&gt; 411

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 4741  
 aaatttactt ctctcagggtc aacaggtggt tttctttctt tttttttttt tttttccctt  
 60  
 ttttttctta aaaaaaaaaa aggggttttt ctttgccccc cccgttcccc ccccttcccc  
 120  
 ttccgaaaaa aagaggggaa ttttttaaaa aacccgaaaag gggggaagg ggggggtata  
 180  
 aaagataaaa tttggttttt tgggggggaa aatttggaaca cccaccctc gggttttttt  
 240  
 tccccacccc aaaaaattttt aaaagggggc cctaaaaaaa attttttctt taatttccaa  
 300  
 ataaaaaaaa aatgggggttc caaaatcatt gaaaaatagg ggggactcca aaaccttgaa  
 360  
 ttttccaag ggggaccact aaaatttacc ctttttttgg ggttttgggg g  
 411

<210> 4742  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 4742  
 Met Ile Leu Glu Pro His Phe Phe Phe Ile Trp Lys Leu Lys Lys Lys  
 1 5 10 15  
 Phe Phe Leu Gly Pro Pro Phe Lys Ile Phe Trp Gly Gly Glu Lys Lys  
 20 25 30  
 Pro Glu Gly Gly Val Ser Lys Phe Ser Pro Pro Lys Asn Gln Ile Leu  
 35 40 45  
 Ser Phe Ile Pro Pro Pro Phe Pro Pro Phe Gly Phe Phe Lys Lys Phe  
 50 55 60  
 Pro Ser Phe Phe Arg Lys Gly Lys Gly Glu Arg Gly Gly Gln Arg  
 65 70 75 80  
 Lys Thr Pro Phe Phe Leu Arg Lys Lys Arg Glu Lys Lys Lys Lys  
 85 90 95  
 Lys Glu Arg Lys Thr Pro Val Asp Leu Arg Glu Val Asn  
 100 105

<210> 4743  
 <211> 473  
 <212> DNA  
 <213> Homo sapiens

<400> 4743  
 gccttgaggt ggaaggcggg aaaatggcgg attcctcggg gcgaggcgct gggaagcctg  
 60  
 caaccggccc cacaaattct agcagtgcc aagaagaagga taaaagagtt caaggtggaa  
 120  
 gagtgattga gtcccggat ctgcagtatg aaaagaagac aaccctaaaag gtcctgcag  
 180  
 gagatgggtc acagaccgga ggaagatgt ctgaaggtgg aaggaaatcc agcctgctcc  
 240  
 agaaaagcaa agcagatagc agtgggggtcg gaaaggtga cctgcagtcc acgttgctgg  
 300

aagggcatgg cacagctcca cctgacctgg atctctctgc tattaatgac aaaagcatcg  
 360  
 tcaaaaagac gccacagtta gcaaaaacaa tatcaaagaa acctgagtca acatcatttt  
 420  
 ctgcccctcg gaaaaagagc ccggatttat ctgaagcgaa tggaatgatg gag  
 473

<210> 4744

<211> 150

<212> PRT

<213> Homo sapiens

<400> 4744

Met	Ala	Asp	Ser	Ser	Gly	Arg	Gly	Ala	Gly	Lys	Pro	Ala	Thr	Gly	Pro
1			5						10				15		
Thr	Asn	Ser	Ser	Ser	Ala	Lys	Lys	Lys	Asp	Lys	Arg	Val	Gln	Gly	Gly
		20					25					30			
Arg	Val	Ile	Glu	Ser	Arg	Tyr	Leu	Gln	Tyr	Glu	Lys	Lys	Thr	Thr	Gln
		35				40					45				
Lys	Ala	Pro	Ala	Gly	Asp	Gly	Ser	Gln	Thr	Arg	Gly	Lys	Met	Ser	Glu
	50				55				60						
Gly	Gly	Arg	Lys	Ser	Ser	Leu	Leu	Gln	Lys	Ser	Lys	Ala	Asp	Ser	Ser
65					70				75					80	
Gly	Val	Gly	Lys	Gly	Asp	Leu	Gln	Ser	Thr	Leu	Leu	Glu	Gly	His	Gly
			85				90						95		
Thr	Ala	Pro	Pro	Asp	Leu	Asp	Leu	Ser	Ala	Ile	Asn	Asp	Lys	Ser	Ile
		100					105					110			
Val	Lys	Lys	Thr	Pro	Gln	Leu	Ala	Lys	Thr	Ile	Ser	Lys	Lys	Pro	Glu
	115					120						125			
Ser	Thr	Ser	Phe	Ser	Ala	Pro	Arg	Lys	Lys	Ser	Pro	Asp	Leu	Ser	Glu
	130					135						140			
Ala	Asn	Gly	Met	Met	Glu										
145					150										

<210> 4745

<211> 666

<212> DNA

<213> Homo sapiens

<400> 4745

gcatggagag aatatgataa gttagaatac gatgtaactg ttaccaggaa ccagatgcaa  
 60  
 gagcagctgg atcaccttgg tgaagttcag acggaatcag caggaattca gcgtgcacag  
 120  
 attcagaaag aactttggcg aattcaggat ccatggaag ggctgagtaa acataagcag  
 180  
 caaagaggta ctacagaaat aggtatgata ggatcaaagc ctttctcaac agttaagtac  
 240  
 aaaaatgagg gtccagatta tagactctac aagagtgaac cagagttaac aacagtggca  
 300  
 gaagttgatg aatctaattg agaagaaaaa tcagaacctg tttcagagat agaaacttca  
 360  
 gttgttaaag gttcccactt tcctgttgga gtagtccttc caagagcaaa atcaccaaca  
 420



cccgaatctt cgacaatagc ttcctatgta accttgagga aaactaagaa gatgatggat  
 480  
 ctaagaacgg aaagaccaag aagtgcagtg gaacagctct gtttggtga aagtactcga  
 540  
 ccaaggatga ctgtggaaga gcaaattggaa agaataagaa gatatcaaca agcgtgcctg  
 600  
 agggagaaga aaaaagggtt aaatgttatc ggtgcttcag accagtcacc cttacaaagc  
 660  
 ccttaa  
 666

<210> 4746

<211> 221

<212> PRT

<213> Homo sapiens

<400> 4746

Ala	Trp	Arg	Glu	Tyr	Asp	Lys	Leu	Glu	Tyr	Asp	Val	Thr	Val	Thr	Arg
1			5					10					15		
Asn	Gln	Met	Gln	Glu	Gln	Leu	Asp	His	Leu	Gly	Glu	Val	Gln	Thr	Glu
	20						25					30			
Ser	Ala	Gly	Ile	Gln	Arg	Ala	Gln	Ile	Gln	Lys	Glu	Leu	Trp	Arg	Ile
	35					40					45				
Gln	Asp	Val	Met	Glu	Gly	Leu	Ser	Lys	His	Lys	Gln	Gln	Arg	Gly	Thr
	50					55					60				
Thr	Glu	Ile	Gly	Met	Ile	Gly	Ser	Lys	Pro	Phe	Ser	Thr	Val	Lys	Tyr
65				70					75					80	
Lys	Asn	Glu	Gly	Pro	Asp	Tyr	Arg	Leu	Tyr	Lys	Ser	Glu	Pro	Glu	Leu
		85						90					95		
Thr	Thr	Val	Ala	Glu	Val	Asp	Glu	Ser	Asn	Gly	Glu	Glu	Lys	Ser	Glu
	100						105						110		
Pro	Val	Ser	Glu	Ile	Glu	Thr	Ser	Val	Val	Lys	Gly	Ser	His	Phe	Pro
	115					120						125			
Val	Gly	Val	Val	Pro	Pro	Arg	Ala	Lys	Ser	Pro	Thr	Pro	Glu	Ser	Ser
	130					135					140				
Thr	Ile	Ala	Ser	Tyr	Val	Thr	Leu	Arg	Lys	Thr	Lys	Lys	Met	Met	Asp
145				150					155					160	
Leu	Arg	Thr	Glu	Arg	Pro	Arg	Ser	Ala	Val	Glu	Gln	Leu	Cys	Leu	Ala
			165					170					175		
Glu	Ser	Thr	Arg	Pro	Arg	Met	Thr	Val	Glu	Glu	Gln	Met	Glu	Arg	Ile
	180						185					190			
Arg	Arg	Tyr	Gln	Gln	Ala	Cys	Leu	Arg	Glu	Lys	Lys	Lys	Gly	Leu	Asn
	195					200						205			
Val	Ile	Gly	Ala	Ser	Asp	Gln	Ser	Pro	Leu	Gln	Ser	Pro			
	210					215					220				

<210> 4747

<211> 1091

<212> DNA

<213> Homo sapiens

<400> 4747

ncatgccagg cggaagtcac aactgcatcc gcacgtgggc tcggcgcgat ggaggaggag  
 60

acgcatactg acgcaaaaat ccgtgctgaa aatggaacag ggtccagccc tcggggctcct  
 120  
 ggctgcagcc tccggcactt tgcctgcgaa cagaacctgc tgcgcgggcc agatggctct  
 180  
 gcttccttcc tgcaaggtga cacctctgtc ctggcgggtg tgtacggggc ggccgaggtg  
 240  
 aaggtcagca aagagatttt caacaaggcc acactcgaag tgatcctgag gccgaagatt  
 300  
 gggctgcctg caggggtcag tggatggcag tcaggccttg ccttcttccc actggaatct  
 360  
 tccatcatcc ctgcaggtgt tgcagagaag agccgggagc ggctgatcag gaacacgtgc  
 420  
 gaggcggtgg tgctgggcac gttgcacccc cgcacctcca tcaccgtggt gctgcaggtt  
 480  
 gtcagcgatg ccggctctct cctggcctgt tgtctgaatg ccgcctgcat ggcattggtg  
 540  
 gatgcaggtg tgcccatgcg ggctctcttc tgtggggtcg cctgcgccct ggactctgat  
 600  
 gggaccctcg tgctggatcc tacatccaag caagaaaagg agggccgggc agtcctgacc  
 660  
 ttgcccctgg acagcgtgga acggaagctg ctgatgtcca gcaccaaggg gctctactca  
 720  
 gacactgagc tccagcagtg cctggctgcg gcccaggccg cttcgcaaca cgtcttccgt  
 780  
 ttctaccggg aatcgctgca gaggcgttac tccaagagct gaggcaagct ggggcaaggg  
 840  
 gccgctccca ttgctccac cactcacc cctacagcct gaagcaaacc agcagcccag  
 900  
 ccttgccctt ctgacccatg ggctccttga gcctgcagct ctgtaaccac agggctcctg  
 960  
 tggggaggcc ttggcctgtg acagcccccga ggctggggg cacagatccc ccagcaagg  
 1020  
 ataacattca aaggagctca ctttatgga atggatgaat caataaatta attcacttta  
 1080  
 aaaaaaaaaa a  
 1091

&lt;210&gt; 4748

&lt;211&gt; 273

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4748

Xaa	Cys	Gln	Ala	Glu	Val	Thr	Thr	Ala	Ser	Ala	Arg	Gly	Leu	Gly	Ala
1				5				10						15	
Met	Glu	Glu	Glu	Thr	His	Thr	Asp	Ala	Lys	Ile	Arg	Ala	Glu	Asn	Gly
			20					25					30		
Thr	Gly	Ser	Ser	Pro	Arg	Gly	Pro	Gly	Cys	Ser	Leu	Arg	His	Phe	Ala
		35					40					45			
Cys	Glu	Gln	Asn	Leu	Leu	Ser	Arg	Pro	Asp	Gly	Ser	Ala	Ser	Phe	Leu
	50					55				60					
Gln	Gly	Asp	Thr	Ser	Val	Leu	Ala	Gly	Val	Tyr	Gly	Pro	Ala	Glu	Val
65					70					75				80	
Lys	Val	Ser	Lys	Glu	Ile	Phe	Asn	Lys	Ala	Thr	Leu	Glu	Val	Ile	Leu

```
<210> 4749
<211> 2196
<212> DNA
<213> Homo sapiens
```

```

<400> 4749
nnacgcgtct catccatggc ttccgcggac tcgcgccggc tggcagatgg cggcggtgccc
60
gggggacacct tccagcccta cctagacacc ttgcggcagg agctgcagca gacggaccca
120
acgctgttgt cagtagtggt ggcggttctt gcggtgctgc tgacgctagt cttctggaag
180
ttaatccgga gcagaaggag cagtcagaga gctgttcttc ttgttggcct ttgtgattcc
240
ggaaaaacgt tgctctttgt cagggttgta acaggccttt atagagacac tcagacgtcc
300
attactgaca gctgtgctgt atacagagtc aacaataaca ggggcaatag tctgaccttg
360
attgaccttc ccggccatga gagtttgagg cttcagttct tagagcgggt taagtcttca
420
gccagggcta ttgtgtttgt tgtggatagt gcagcattcc agcgagaggt gaaagatgtg
480
gctgagtttc tgtatcaagt cctcattgac agtatgggtc tgaagaatac accatcattc
540
ttaatagcct gcaataagca agatattgca atggcaaaat cagcaaagtt aattcaacag
600
cagctggaga aagaactcaa caccttacga gttaccggtt ctgctgcccc cagcacactg
660

```

gacagttcca gcactgcccc tgctcagctg gggaagaaa gcaaagagtt tgaattctca  
720  
cagttgcccc tcaaagtggga gttcctggag tgcagtgccca aggggtggaag agggggacgtg  
780  
ggctctgctg acatccagga cttggagaaa tggctggcta aaattgcctg agaggcagct  
840  
ctaaagcaca agacctggat gtgtgacaca cagtttttga aaaaggctctg tggtagtctg  
900  
gagttgatga ggaaggggta caagatgtgg ttagaaacat ttctttgttc tggaaacaaa  
960  
gtactgttga aaccagcttg gaattttttt tttttttttt ttaagttcag ttctccctta  
1020  
tggctgcctt tcaaacaagt acctttttatc tgatgcctgt atcttccctt tgttaagggtg  
1080  
taacttgatg taggggtcaag gtttttgtga caacaggcag actccacaca gagaggatat  
1140  
gatgagaata tggccatcac ctgaaaagt ttcttatctt ctgtgctttt ggtccctgga  
1200  
aacaatccg cctatgtatg aagctagtgt atttccagtt gcactatttc cagttgcctc  
1260  
tgaagttcac aggcaataca ttgtctagtc ctttgcaat ttctctgatt tgtgggcaca  
1320  
gttatgaagt tccccacat gtgaagacag gtacaaaata gcagagccaa gcagacagt  
1380  
ggctctattct tcattagctc agtgacttgt ccacactcgt cttagcactt acgtttcaaa  
1440  
agcttgtcac aaacccttgg agtcattccc agataataga actggaaatg ataaatcccc  
1500  
taatgccaag ggtctagtgt gttcttagtg gttatactgg gaagtgtgtg gagatttagg  
1560  
tgctgctctg ctgctctgga tggctgaagg ctctggggc atcttcatgt gctgcttgaa  
1620  
gagctcctat tttgtactcc tggctagaat gctgtggaac aaatacaaaag tgaaaaaagt  
1680  
tctctgtaga tttctgaagt gcatattcat tgatgccaaag aaaaaaaaaa aagttgcctt  
1740  
tttgaagtga tgttttttgc tgtcttctta aacacaaggc ttttttgaat gattagtata  
1800  
tttcatggta aagaaaacag cctgtctggc tcaaagcaat taaatagaat gtaatggtga  
1860  
gtacaaatga gtgcacatgt caggactcag gtctaactcc ttgtctcctg agcctaaaga  
1920  
ttgcaacata cacaagaaca cactcctatt cctacccac acactcaggg acaagcccaa  
1980  
ctaaagctta caaggagacc aggggtggctc tgtccagggg agaagccagt tatggaacag  
2040  
tgcatgaga gccatggtag gagaggccca cagttctctg gagcatgcag caggggcacc  
2100  
ccacctggcc ttgaggatca gggggagtca aaggataaag catggggctg atgacgtctg  
2160  
agggagtgtg atcctccatg tatggcctct gcctgc  
2196

&lt;210&gt; 4750

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4750

```

Xaa Arg Val Ser Ser Met Ala Ser Ala Asp Ser Arg Arg Leu Ala Asp
 1           5           10           15
Gly Gly Gly Ala Gly Gly Thr Phe Gln Pro Tyr Leu Asp Thr Leu Arg
 20           25           30
Gln Glu Leu Gln Gln Thr Asp Pro Thr Leu Leu Ser Val Val Val Ala
 35           40           45
Val Leu Ala Val Leu Leu Thr Leu Val Phe Trp Lys Leu Ile Arg Ser
 50           55           60
Arg Arg Ser Ser Gln Arg Ala Val Leu Leu Val Gly Leu Cys Asp Ser
 65           70           75           80
Gly Lys Thr Leu Leu Phe Val Arg Leu Leu Thr Gly Leu Tyr Arg Asp
 85           90           95
Thr Gln Thr Ser Ile Thr Asp Ser Cys Ala Val Tyr Arg Val Asn Asn
100           105           110
Asn Arg Gly Asn Ser Leu Thr Leu Ile Asp Leu Pro Gly His Glu Ser
115           120           125
Leu Arg Leu Gln Phe Leu Glu Arg Phe Lys Ser Ser Ala Arg Ala Ile
130           135           140
Val Phe Val Val Asp Ser Ala Ala Phe Gln Arg Glu Val Lys Asp Val
145           150           155           160
Ala Glu Phe Leu Tyr Gln Val Leu Ile Asp Ser Met Gly Leu Lys Asn
165           170           175
Thr Pro Ser Phe Leu Ile Ala Cys Asn Lys Gln Asp Ile Ala Met Ala
180           185           190
Lys Ser Ala Lys Leu Ile Gln Gln Gln Leu Glu Lys Glu Leu Asn Thr
195           200           205
Leu Arg Val Thr Arg Ser Ala Ala Pro Ser Thr Leu Asp Ser Ser Ser
210           215           220
Thr Ala Pro Ala Gln Leu Gly Lys Lys Gly Lys Glu Phe Glu Phe Ser
225           230           235           240
Gln Leu Pro Leu Lys Val Glu Phe Leu Glu Cys Ser Ala Lys Gly Gly
245           250           255
Arg Gly Asp Val Gly Ser Ala Asp Ile Gln Asp Leu Glu Lys Trp Leu
260           265           270
Ala Lys Ile Ala
275

```

&lt;210&gt; 4751

&lt;211&gt; 2777

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4751

```

gccagaggcc tgcccaaagt ggggcaaaaa acacagtcac tctgcagggt caggcaacac
60
ctcctcagcc catcaaagta ccacagttta tccccctcc tagactcact ccacgtccaa
120
actttcttcc acaggttcga cccaagcctg tggcccagaa taacattcct attgccccca
180

```

gcaccacctc ccatgctcgc agtcctcag cttatccaga ggcccgtcat gctgaccaag  
240  
ttcaccccca caacccttcc cacatcccag aattccatcc accccgtccg tgcgtcaat  
300  
gggcagactg caaccatagc caaaacgttc cccatggccc agtcaccag cattgtgata  
360  
gctactccag ggaccagact cgctggacct caaactgtac agcttagcaa gccaagtctt  
420  
gaaaaacaga cagttaaadc tcacacagaa acagatgaga aacaaacaga gagccgcacc  
480  
atcacccac ctgctgcacc caaaccaaaa cgggaggaga accctcagaa acttgccttc  
540  
atgggtgtctc tagggttggt aacacatgac catctagaag aaatccaaag caagaggcaa  
600  
gagcgaaaaa gaagaacaac agcaaaccg gtctacagtg gagcagtctt tgagccagag  
660  
cgtaagaaga gtgcagtgc atacctaaac agcacaatgc accctgggac ccggaagaga  
720  
gccaatgagg aacactggcc aaaggggtgat attcatgagg atttttgcag cgtttgcaga  
780  
aaaagtggcc agttactgat gtgcgacaca tgttcccgtg tatatcattt ggactgctta  
840  
gacccccctc tgaaaacaat tcccaagggc atgtggatct gtcccagatg tcaggaccag  
900  
atgctgaaga aggaagaagc aattccatgg ncctggaact ttagcaattg ttcattccta  
960  
tattgcctac aaagcagcaa aagaagaaga gaaacagaag ttacttaaat ggagttcaga  
1020  
tttaaaacaa gaacgagaac aactagagca aaaggtgaaa cagctcagca attccataag  
1080  
taaattgcatg gaaatgaaga acaccatcct ggcccggcag aaggagatgc acagctccct  
1140  
ggagaaggta aaacagctga ttgcctcat ccacggcatc gacctctcca aacctgtaga  
1200  
ctctgaggcc actgtggggg gccatctcca atggcccggg ctgcaccccc cctgccaatg  
1260  
ccgccacctc cagccggcc ccttccccct cctcccagag ctgcacagcg aactgtaacc  
1320  
agggggaaga gactaaataa cagagccct ctaggagaag ccacgggatc ccggcggcaa  
1380  
ggagaacaga aactgaaga ctctagaaaa gcaaagccgg atttctggaa agtgcagaat  
1440  
tcttttggtt ctttggttcc agagagagag aagatgcttg tgccaggtgg caccagagtt  
1500  
tgccaattga tccttcttat tctgtgtgta catgcaaaga ttggaccatg ttacatgaaa  
1560  
tagtgccagc tggaggttct ttgccagcac catgccaagt gaaataatat atttactctc  
1620  
tctattatac accagtgtgt gcctgcagca gcctccacag ccacgatggg tttgtttctg  
1680  
ttttcttggg tggggagcag ggacgggagg agggaggaga gcaggtttca gatccttact  
1740  
tgccgagccg tttgtttagg tagagaagac aagtccaaag agtgtgtggg ctttcctggt  
1800

tctaaacttt cgctactata aaacccaaaa aaggaattga gatttcacca accccagtgc  
 1860  
 ccagaagagg gaaggggagt ggctggaggg agcaggggggt tggacagtgt atcaaataag  
 1920  
 cagtatttaa tcacctctgg cgggggcctc gtgcaagggg agactgacac caagaacagc  
 1980  
 cagtaggttc ttctcccctg cactctgctc cctgcgcggt aaccccacca ctctgaagc  
 2040  
 ctgcccagtc tccttccttc cctgcttggt gagtcgcgca tctccgtggt tatcccgctg  
 2100  
 tctcctctcc aagaacaagc agagccgggc cactagcttg cccaaggcag ggaagaagga  
 2160  
 tgtgtgtgtc caggaaggaa aaaaagggtg atcagtgatt ttacttgaaa tcaagctcca  
 2220  
 tcccttttct atatttataa gaagagaaga tcttgagtga agcagcacgc gaccaggtg  
 2280  
 tgtgtgaatt gaatggagac gtttcttttc tctttcttta attttggtt ttgttctttt  
 2340  
 tttctttaag gaaagtttta ttttactgtt cattttactt tcttggtaac aaaaactaaa  
 2400  
 ataaggaata gaaaagctgt ttttcaggct gacagtccaa ttaagggtag ccaagacctt  
 2460  
 gcatggtaga gtaggaatca tagtgtcagt gaggtcccgt gagtctttgt gagtccttgt  
 2520  
 gtcacgttcc gggcactgtt ttttttatgc aagggcacaaa atctttgtat ctggggaaaa  
 2580  
 aaaacttttt tttaaattaa aaaggaaaat aaaagatatt gaggtcttcc tagtgttact  
 2640  
 taaattaaga tcaaggtaag aaacattgta aaaaaaaatt acaaaagtgc tatttgtttc  
 2700  
 ctaaaaacag tgatttctat taaaaagggtg tcagaactgg aaaaaaaaaa aaaaaaaaaa  
 2760  
 aaaaaaaaaa aaaaaaa  
 2777

&lt;210&gt; 4752

&lt;211&gt; 335

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4752

Ala	Arg	Gly	Leu	Pro	Lys	Trp	Gly	Gln	Lys	Thr	Gln	Ser	Leu	Cys	Arg
1				5					10					15	
Phe	Arg	Gln	His	Leu	Leu	Ser	Pro	Ser	Lys	Tyr	His	Ser	Leu	Ser	Pro
			20					25					30		
Leu	Leu	Asp	Ser	Leu	His	Val	Gln	Thr	Phe	Phe	His	Arg	Phe	Asp	Pro
		35					40					45			
Ser	Leu	Trp	Pro	Arg	Ile	Thr	Phe	Leu	Leu	Pro	Pro	Ala	Pro	Pro	Pro
	50				55					60					
Met	Leu	Ala	Ala	Pro	Gln	Leu	Ile	Gln	Arg	Pro	Val	Met	Leu	Thr	Lys
65				70					75					80	
Phe	Thr	Pro	Thr	Thr	Leu	Pro	Thr	Ser	Gln	Asn	Ser	Ile	His	Pro	Val
			85					90					95		
Arg	Val	Val	Asn	Gly	Gln	Thr	Ala	Thr	Ile	Ala	Lys	Thr	Phe	Pro	Met

	100		105		110										
Ala	Gln	Leu	Thr	Ser	Ile	Val	Ile	Ala	Thr	Pro	Gly	Thr	Arg	Leu	Ala
	115						120					125			
Gly	Pro	Gln	Thr	Val	Gln	Leu	Ser	Lys	Pro	Ser	Leu	Glu	Lys	Gln	Thr
	130						135					140			
Val	Lys	Ser	His	Thr	Glu	Thr	Asp	Glu	Lys	Gln	Thr	Glu	Ser	Arg	Thr
	145				150				155						160
Ile	Thr	Pro	Pro	Ala	Ala	Pro	Lys	Pro	Lys	Arg	Glu	Glu	Asn	Pro	Gln
				165				170						175	
Lys	Leu	Ala	Phe	Met	Val	Ser	Leu	Gly	Leu	Val	Thr	His	Asp	His	Leu
	180							185					190		
Glu	Glu	Ile	Gln	Ser	Lys	Arg	Gln	Glu	Arg	Lys	Arg	Arg	Thr	Thr	Ala
	195						200					205			
Asn	Pro	Val	Tyr	Ser	Gly	Ala	Val	Phe	Glu	Pro	Glu	Arg	Lys	Lys	Ser
	210					215						220			
Ala	Val	Thr	Tyr	Leu	Asn	Ser	Thr	Met	His	Pro	Gly	Thr	Arg	Lys	Arg
	225				230					235					240
Ala	Asn	Glu	Glu	His	Trp	Pro	Lys	Gly	Asp	Ile	His	Glu	Asp	Phe	Cys
				245				250						255	
Ser	Val	Cys	Arg	Lys	Ser	Gly	Gln	Leu	Leu	Met	Cys	Asp	Thr	Cys	Ser
	260						265					270			
Arg	Val	Tyr	His	Leu	Asp	Cys	Leu	Asp	Pro	Pro	Leu	Lys	Thr	Ile	Pro
	275					280					285				
Lys	Gly	Met	Trp	Ile	Cys	Pro	Arg	Cys	Gln	Asp	Gln	Met	Leu	Lys	Lys
	290				295				300						
Glu	Glu	Ala	Ile	Pro	Trp	Xaa	Trp	Asn	Phe	Ser	Asn	Cys	Ser	Phe	Leu
	305				310				315					320	
Tyr	Cys	Leu	Gln	Ser	Ser	Lys	Arg	Arg	Arg	Glu	Thr	Glu	Val	Thr	
			325					330					335		

&lt;210&gt; 4753

&lt;211&gt; 5298

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4753

```

ntccggagtg aggagctcgg tcgccgaagc ggagggagac tcttgagctt catcttgccg
60
ccgccacggc caccgcctgg acctttgccc ggagggagct gcagaggggc catcgccgcc
120
gtcctctgga gggcagcgcg attggggggc cggacctcca gtccgggggg gatttttcgt
180
cgtccccctc cccccacca gggagcccga gcggnncgcc aaacaaaggt accagtcgcc
240
gccgcgggag gaggaggagc cggagcctct gctcagcag ccgctggacc cgccgccctt
300
cttccccatc tctcccccg gctgctggt tttggggggg agaaggagag aggggactct
360
ggacgtgccg gggtcagatc tcgctccga ggaaggtgca gctgaacctg gtgttttaga
420
ggataccttg gtcccagagt catcatgaag gcccttgatg agcctcccta tttgacagt
480
ggcactgatg tgagtgctaa atacagagga gccttttgtg aagccaagat caagacagca
540

```



aaaagacttg tcaaagtcaa ggtgacattt agacatgatt cttcaacagt ggaagttcag  
600  
gatgaccaca taaagggccc actaaaggta ggagctattg tggaagtga gaatcttgat  
660  
ggtgcatatc aggaagctgt tatcaataaa ctaacagatg cgagttggta cactgtagtt  
720  
tttgatgacg gagatgagaa gacactgaga cgatcttcac tgtgcctgaa aggagagagg  
780  
cattttgctg aaagtgaac attagaccag ctccactca ccaaccctga gcattttggc  
840  
actccagtca taggaaagaa aacaaataga ggaagaagat ctaatcatat accagaggaa  
900  
gagtcttcat catcctccag tgatgaagat gaggatgata ggaaacagat tgatgagcta  
960  
ctaggcaaag ttgtatgtgt agattacatt agtttggata aaaagaaagc actgtggttt  
1020  
cctgcattgg tggtttgtcc tgattgtagt gatgagattg ctgtaaaaaa ggacaatatt  
1080  
cttgttcgat ctttcaaaga tggaaaattt acttcagttc caagaaaaga tgtccatgaa  
1140  
attactagtg acactgcacc aaagcctgat gctgttttaa agcaagcctt tgaacaggca  
1200  
cttgaatttc acaaaagtag aactattcct gctaactgga agactgaatt gaaagaagat  
1260  
agctctagca gtgaagcaga ggaagaagag gaggaggaag atgatgaaaa agaaaaggag  
1320  
gataatagca gtgaagaaga agaagaaata gaaccatttc cagaagaaag ggagaacttt  
1380  
cttcagcaat tgtacaaatt tatggaagat agaggtacac ctattaacaa acgacctgta  
1440  
cttgatatac gaaatttgaa tctctttaag ttattcagac ttgtacacaa acttggagga  
1500  
tttgataata ttgaaagtgg agctgtttgg aaacaagtct accaagatct tggaatccct  
1560  
gtcttaaatt cagctgcagg atacaatgtt aaatgtgctt ataaaaata cttatatggt  
1620  
tttgaggagt actgtagatc agccaacatt gaatttcaga tggcattgcc agagaaagtt  
1680  
gttaacaagc aatgtaagga gtgtgaaaat gtaaaagaaa taaaagttaa ggaggaaaat  
1740  
gaaacagaga tcaaagaaat aaagatggag gaggagagga atataatacc aagagaagaa  
1800  
aagcctattg aggatgaaat tgaaagaaaa gaaaatatta agccctctct gggaagtaaa  
1860  
aagaatttat tagaatctat acctacacat tctgatcagg aaaaagaagt taacattaaa  
1920  
aaaccagaag acaatgaaaa tctggacgac aaagatgatg acacaactag ggtagatgaa  
1980  
tccttcaaca taaaggtaga agctgaggaa gaaaaagcaa aatctggaga tgaaacgaat  
2040  
aaagaagaag atgaagatga tgaagaagca gaagaggagg aggaggagga agaagaagaa  
2100  
gaggatgaag atgatgatga caacaatgag gaagaggagt ttgagtgcta tccaccaggc  
2160

atgaaagtcc aagtgcggta tggacgaggg aaaaatcaaa aaatgtatga agctagtatt  
2220  
aaagattctg atgtcgaagg tggagaggtc ctttacttgg tgcattactg cggatggaat  
2280  
gtgagatacg atgaatggat taaagcagat aaaatagtaa gacctgctga taaaaatgtg  
2340  
ccaaagataa aacatcggaa gaaaataaag aataaattag acaaagaaaa agacaaagat  
2400  
gaaaaatact ctccaaaaaa ctgtaaactt cggcgcttgt ccaaaccacc atttcagaca  
2460  
aatccatctc ctgaaatggg atccaaactg gatctcactg atgccaaaaa ctctgatact  
2520  
gctcatatta agtccataga aattacttcg atccttaatg gacttcaagc ttctgaaagt  
2580  
tctgctgaag acagtgaagc ggaagatgag agaggtgctc aagacatgga taataatggc  
2640  
aaagagggaat ctaagattga tcatttgacc aacaacagaa atgatcttat ttcaaaggag  
2700  
gaacagaaca gttcatcttt gctagaagaa acaaaagttc atgcagattt ggtaatatcc  
2760  
aaaccagtgt caaaatctcc agaaagatta aggaaagata tagaagtatt atccgaagat  
2820  
actgattatg aagaagatga agtcacaaaa aagagaaagg atgtcaagaa ggacacaaca  
2880  
gataaatctt caaaaccaca aataaaacgt ggtaaaagaa ggtattgcaa tacagaagag  
2940  
tgtctaaaaa ctggatcacc tggcaaaaag gaagagaagg ccaagaacaa agaatcactt  
3000  
tgcattgaaa acagtgcac agctcttcag atgaagatga agaagaacaa agcaaagatg  
3060  
acaccaacta agaaatacaa tgggttgagg gaaaaaagaa aatctctacg gacaactggg  
3120  
ttctattcag gattttcaga agtggcagaa aaaaggatta aactttttaa taactctgat  
3180  
gaaagacttc aaaacagcag ggccaaagat cgaaaagatg tctgggtcaag tattcagggg  
3240  
cagtggccta aaaaaacgct gaaagagctt ttttcagact ctgatactga ggctgcagct  
3300  
tccccaccgc atcctgcccc agaggagggg gtggcagagg agtcactgca gactgtggct  
3360  
gaagaggaga gttgttcacc cagtgtagaa ctagaaaaac cacctccagt caatgtcgat  
3420  
agtaaaccce ttgaagaaaa aacagttagg gtcaatgaca gaaaagcaga atttccaagt  
3480  
agtggcagta attcagtgt aaatacccct cctactacac ctgaatcgcc ttcacagtc  
3540  
actgtaacag aaggcagccg gcagcagtct tctgtaacag tatcagaacc actgggtcca  
3600  
aaccaagaag aggttcgaag tatcaagagt gaaactgata gcacaattga ggtggatagt  
3660  
gttgctgggg agctccaaga cctccagtct gaaggaata gctcgccagc aggttttgat  
3720  
gccagtgtga gctcaagcag tagtaatcag ccagaaccag aacatcctga aaaagcctgt  
3780

acaggtcaga aaagagtgaag agatgctcag ggaggaggaa gttcatcaaa aaagcagaaa  
3840  
agaagccata aagcaacagt ggtaaacaac acaaagaagg gaaaaggcac aaatagtagt  
3900  
gatagtgaag aacttttcagc tggtgaaagt ataactaaga gtcagccagt caaatcagtt  
3960  
tccactggaa tgaagtctca tagtaccaaa tctcccgaag ggacgcagtc tccaggaaaa  
4020  
tgtggaaaga atggtgataa ggatcctgat ctcaaggaac ccagtaatcg attacccaaa  
4080  
gtttacaaat ggagttttca gatgtcggac ctggaaaata tgacaagtgc cgaacgcac  
4140  
acaattcttc aagaaaaact tcaagaaaat cagaaacatt atctgtcatt aaaatctgaa  
4200  
gtagcttcca ttgatcggag gagaaagcgt ttaaagaaga aagagagaga aagtgtgtgt  
4260  
acatcctcat cctcctcttc accttcatcc agttccataa acagctgtgt ttatgttaac  
4320  
tttagctgaa ccgtaaatgt ccagcgcac acaaatgga atgtcagttg agtgacaggt  
4380  
gacagcagga cttgtctaaag cactttggca cttaatggct gttgagggcc actttttttt  
4440  
tatactgcac agtggcaca aaaaatatca gacaagcact attttaatat ttaaaaattg  
4500  
tttcttgaca agctgacttg gcacttaagt gcactttttt atgaagaaaa agtacaatga  
4560  
actgtttttc ctcaagcaat aattgtttcc aacttgtctg ggaattgtgt gtctggtaac  
4620  
tggaaggcct tccactgtgg caaatggagg cttttcactg cctgtagaga caatacagta  
4680  
agcatagtta aggggtgggt cagaacatgt taagataact tactgtatat gtattccctt  
4740  
gtattttgtt aaagctggaa catttgatat ttttccattt atttatgaaa aaatatgaac  
4800  
ctattttcat ttgtacaagg taattgtttt ttaaagcaag tcaccttagg gtggcttta  
4860  
ttgtataagt caagcacatg taataaatc aaaacctgca gttaacagga tattagacat  
4920  
caatcctggg aaccaaatat taaagattct ctttaaaaaa gactgaacat gtttacaggt  
4980  
ttgaattagg ctaaaaggtc ttgcagtggc ttttcatggc cttcaaatt ggaatggaac  
5040  
tactgtactt tgccattttt ctataaatca gtattttttt ttaattttga tatacattgt  
5100  
gtgaaaaaag aaaatggcct aataaactgt attaaatctt aaacaatgta taaagattgt  
5160  
acttagccag ttcaaagtgt atatttatc ataataaatt ataacagtta tattttttgtg  
5220  
ttttctgtaa atgtttcttt ccccttaaatt accagataat tcctttggaa tgcttatttt  
5280  
attatgagcc accaccaa  
5298

&lt;210&gt; 4754

&lt;211&gt; 748

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4754

Glu Glu Glu Glu Glu Glu Glu Asp Glu Asp Asp Asp Asp Asn Asn Glu  
 1 5 10 15  
 Glu Glu Glu Phe Glu Cys Tyr Pro Pro Gly Met Lys Val Gln Val Arg  
 20 25 30  
 Tyr Gly Arg Gly Lys Asn Gln Lys Met Tyr Glu Ala Ser Ile Lys Asp  
 35 40 45  
 Ser Asp Val Glu Gly Gly Glu Val Leu Tyr Leu Val His Tyr Cys Gly  
 50 55 60  
 Trp Asn Val Arg Tyr Asp Glu Trp Ile Lys Ala Asp Lys Ile Val Arg  
 65 70 75 80  
 Pro Ala Asp Lys Asn Val Pro Lys Ile Lys His Arg Lys Lys Ile Lys  
 85 90 95  
 Asn Lys Leu Asp Lys Glu Lys Asp Lys Asp Glu Lys Tyr Ser Pro Lys  
 100 105 110  
 Asn Cys Lys Leu Arg Arg Leu Ser Lys Pro Pro Phe Gln Thr Asn Pro  
 115 120 125  
 Ser Pro Glu Met Val Ser Lys Leu Asp Leu Thr Asp Ala Lys Asn Ser  
 130 135 140  
 Asp Thr Ala His Ile Lys Ser Ile Glu Ile Thr Ser Ile Leu Asn Gly  
 145 150 155 160  
 Leu Gln Ala Ser Glu Ser Ser Ala Glu Asp Ser Glu Gln Glu Asp Glu  
 165 170 175  
 Arg Gly Ala Gln Asp Met Asp Asn Asn Gly Lys Glu Glu Ser Lys Ile  
 180 185 190  
 Asp His Leu Thr Asn Asn Arg Asn Asp Leu Ile Ser Lys Glu Glu Gln  
 195 200 205  
 Asn Ser Ser Ser Leu Leu Glu Glu Asn Lys Val His Ala Asp Leu Val  
 210 215 220  
 Ile Ser Lys Pro Val Ser Lys Ser Pro Glu Arg Leu Arg Lys Asp Ile  
 225 230 235 240  
 Glu Val Leu Ser Glu Asp Thr Asp Tyr Glu Glu Asp Glu Val Thr Lys  
 245 250 255  
 Lys Arg Lys Asp Val Lys Lys Asp Thr Thr Asp Lys Ser Ser Lys Pro  
 260 265 270  
 Gln Ile Lys Arg Gly Lys Arg Arg Tyr Cys Asn Thr Glu Glu Cys Leu  
 275 280 285  
 Lys Thr Gly Ser Pro Gly Lys Lys Glu Glu Lys Ala Lys Asn Lys Glu  
 290 295 300  
 Ser Leu Cys Met Glu Asn Ser Ser Thr Ala Leu Gln Met Lys Met Lys  
 305 310 315 320  
 Lys Asn Lys Ala Lys Met Thr Pro Thr Lys Lys Tyr Asn Gly Leu Glu  
 325 330 335  
 Glu Lys Arg Lys Ser Leu Arg Thr Thr Gly Phe Tyr Ser Gly Phe Ser  
 340 345 350  
 Glu Val Ala Glu Lys Arg Ile Lys Leu Leu Asn Asn Ser Asp Glu Arg  
 355 360 365  
 Leu Gln Asn Ser Arg Ala Lys Asp Arg Lys Asp Val Trp Ser Ser Ile  
 370 375 380  
 Gln Gly Gln Trp Pro Lys Lys Thr Leu Lys Glu Leu Phe Ser Asp Ser

```

385          390          395          400
Asp Thr Glu Ala Ala Ser Pro Pro His Pro Ala Pro Glu Glu Gly
          405          410          415
Val Ala Glu Glu Ser Leu Gln Thr Val Ala Glu Glu Glu Ser Cys Ser
          420          425          430
Pro Ser Val Glu Leu Glu Lys Pro Pro Pro Val Asn Val Asp Ser Lys
          435          440          445
Pro Ile Glu Glu Lys Thr Val Glu Val Asn Asp Arg Lys Ala Glu Phe
          450          455          460
Pro Ser Ser Gly Ser Asn Ser Val Leu Asn Thr Pro Pro Thr Thr Pro
465          470          475          480
Glu Ser Pro Ser Ser Val Thr Val Thr Glu Gly Ser Arg Gln Gln Ser
          485          490          495
Ser Val Thr Val Ser Glu Pro Leu Ala Pro Asn Gln Glu Glu Val Arg
          500          505          510
Ser Ile Lys Ser Glu Thr Asp Ser Thr Ile Glu Val Asp Ser Val Ala
          515          520          525
Gly Glu Leu Gln Asp Leu Gln Ser Glu Gly Asn Ser Ser Pro Ala Gly
          530          535          540
Phe Asp Ala Ser Val Ser Ser Ser Ser Ser Asn Gln Pro Glu Pro Glu
545          550          555          560
His Pro Glu Lys Ala Cys Thr Gly Gln Lys Arg Val Lys Asp Ala Gln
          565          570          575
Gly Gly Gly Ser Ser Ser Lys Lys Gln Lys Arg Ser His Lys Ala Thr
          580          585          590
Val Val Asn Asn Thr Lys Lys Gly Lys Gly Thr Asn Ser Ser Asp Ser
          595          600          605
Glu Glu Leu Ser Ala Gly Glu Ser Ile Thr Lys Ser Gln Pro Val Lys
          610          615          620
Ser Val Ser Thr Gly Met Lys Ser His Ser Thr Lys Ser Pro Ala Arg
625          630          635          640
Thr Gln Ser Pro Gly Lys Cys Gly Lys Asn Gly Asp Lys Asp Pro Asp
          645          650          655
Leu Lys Glu Pro Ser Asn Arg Leu Pro Lys Val Tyr Lys Trp Ser Phe
          660          665          670
Gln Met Ser Asp Leu Glu Asn Met Thr Ser Ala Glu Arg Ile Thr Ile
          675          680          685
Leu Gln Glu Lys Leu Gln Glu Asn Gln Lys His Tyr Leu Ser Leu Lys
          690          695          700
Ser Glu Val Ala Ser Ile Asp Arg Arg Arg Lys Arg Leu Lys Lys Lys
705          710          715          720
Glu Arg Glu Ser Ala Ala Thr Ser Ser Ser Ser Ser Ser Pro Ser Ser
          725          730          735
Ser Ser Ile Asn Ser Cys Cys Tyr Val Asn Phe Ser
          740          745

```

&lt;210&gt; 4755

&lt;211&gt; 2093

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4755

```

naaacaggtc aggtaaaccc acatgcccac agtcacacac aaggcagcat tctgaagttc
60

```

agtcgtttca ttttgcctaa atgaatatga gagatatctt ccatttttcc atcccaattc  
120  
cctatccgcc tgtctgagcc tcaggaaact agcctcatga ctctctccac acacttccct  
180  
gccctctggt ttctgagtgg gacgtggaga gaggaggag atggaagttg gggctcttat  
240  
tcccacagca cccacccct acccccgag acttaactaa ggctggcagt ggccttcaac  
300  
caaaggccat agtgtctggt gtacacagcc ctcttgttcc aagtcccgt aaccactgcc  
360  
tcccctgtc ctagccctc cgtcttacgc taaccattgt aatttttcta catcctgccc  
420  
acaccattat aaataagtta atgatttatt gtgtcgtctt caaattactg aagtggggag  
480  
tgtgccttct gtttctgtt gtgacgtgc agataatagc aagtaagtta aacagtaagt  
540  
aaatatttcc tatttcagag gaatataaaa catcacactt agtgcttgc ttagcagcat  
600  
atatactaaa attggaacga tacagagaag attagcatga cccctgcgca aggatggcac  
660  
gcaaattcgt gaagcgttcc atatttttcc cctgcagagc caggcacct caagaccagt  
720  
ctggtggcta ctccaggcat tgacaagctg accgagaagt cccaggtgtc agaggatggc  
780  
accttgcgt ccctggaacc tgagccccag cagagcttgg aggatggcag cccggctaag  
840  
ggggagccca gccaggcatg gagggagcag cggcgaccgt ccacctcatc agccagtggg  
900  
cagtggagcc caacgccaga gtgggtctc tctggaagt cgaagctgcc gctgcagacc  
960  
atcatgaggc tgctgcaggt gctggttccg caggtggaga agatctgcat cgacaagggc  
1020  
ctgacggatg agtctgagat cctgcggttc ctgcagcatg gcacctggt ggggctgctg  
1080  
cccgtgccc acccctcct catccgcaag taccaggcca actcgggcac tgccatgtgg  
1140  
ttccgcacct acatgtggg cgctcatctat ctgaggaatg tggaccccc tgtctggtac  
1200  
gacaccgacg tgaagctgtt tgagatacag cgggtgtgag gatgaagccg acgaggggct  
1260  
cagtctaggg gaaggcaggg ccttggtccc tgaggcttcc cccatccacc attctgagct  
1320  
ttaaattacc acgatcaggg cctggaacag gcagagtggc cctgagtgtc atgccctaga  
1380  
gaccctgtg gccaggacaa tgtgaactgg ctcatatccc cctcaacccc taggctggac  
1440  
tcacaggagc cccatctctg gggctatgcc cccaccagag accactgccc ccaacactcg  
1500  
gactccctct ttaagacctg gctcagtgtt gggccctcag tgcccaccca ctctgtgtt  
1560  
accagcccc agaggcagaa gccaaaatgg gtcactgtgc cctaaggggt ttgaccaggg  
1620  
aaccagggc tgtcccttga ggtgcctgga cagggttaagg ggggtgcttc agcctcctaa  
1680

cccaaagcca gctgttccag gctccagggg aaaaaggtgt ggccaggctg ctctcgagg  
 1740  
 aggtggggag ctggccgact gcaaaagcca gactggggca cctcccgat ccttggggca  
 1800  
 tgggtgggg tggtaggggt ctctgctat attctctgg atccatggaa atagcctggc  
 1860  
 tccctcttac ccagtaatga ggggcagga aggggaactgg gaggcagccg tttagtctc  
 1920  
 cctgccctgc ccactgctg gatggggcga tgccaccct catccttcac ccagctctgg  
 1980  
 cctctgggtc ccaccacca gcccccggtg tcagaacaat ctttgctctg tacaatcggc  
 2040  
 ctctttacaa taaaacctcc tgctccacaa aaaaaaaaaa aaaaaaaaaa aaa  
 2093

<210> 4756

<211> 188

<212> PRT

<213> Homo sapiens

<400> 4756

Ser	Val	Pro	Tyr	Phe	Ser	Pro	Ala	Glu	Pro	Gly	Thr	Leu	Lys	Thr	Ser
1				5				10					15		
Leu	Val	Ala	Thr	Pro	Gly	Ile	Asp	Lys	Leu	Thr	Glu	Lys	Ser	Gln	Val
			20					25					30		
Ser	Glu	Asp	Gly	Thr	Leu	Arg	Ser	Leu	Glu	Pro	Glu	Pro	Gln	Gln	Ser
		35					40					45			
Leu	Glu	Asp	Gly	Ser	Pro	Ala	Lys	Gly	Glu	Pro	Ser	Gln	Ala	Trp	Arg
	50					55					60				
Glu	Gln	Arg	Arg	Pro	Ser	Thr	Ser	Ser	Ala	Ser	Gly	Gln	Trp	Ser	Pro
65					70					75				80	
Thr	Pro	Glu	Trp	Val	Leu	Ser	Trp	Lys	Ser	Lys	Leu	Pro	Leu	Gln	Thr
			85					90						95	
Ile	Met	Arg	Leu	Leu	Gln	Val	Leu	Val	Pro	Gln	Val	Glu	Lys	Ile	Cys
			100				105							110	
Ile	Asp	Lys	Gly	Leu	Thr	Asp	Glu	Ser	Glu	Ile	Leu	Arg	Phe	Leu	Gln
		115					120					125			
His	Gly	Thr	Leu	Val	Gly	Leu	Leu	Pro	Val	Pro	His	Pro	Ile	Leu	Ile
		130				135					140				
Arg	Lys	Tyr	Gln	Ala	Asn	Ser	Gly	Thr	Ala	Met	Trp	Phe	Arg	Thr	Tyr
145					150					155				160	
Met	Trp	Gly	Val	Ile	Tyr	Leu	Arg	Asn	Val	Asp	Pro	Pro	Val	Trp	Tyr
			165					170						175	
Asp	Thr	Asp	Val	Lys	Leu	Phe	Glu	Ile	Gln	Arg	Val				
			180					185							

<210> 4757

<211> 272

<212> DNA

<213> Homo sapiens

<400> 4757

nccatggaag ccccaaccg gatccgggac actccggaag acatcgtgct ggaagctccg  
 60

gctagtgggc tggcggtcca tccggcccgt gacctactgg ctgcagggga cgtggacggg  
 120  
 gacgtattcg tcttttccta ctcttgccaa gagggagaaa ccaaggagct ggcatcagg  
 180  
 tcacatctca aggctgccc agctgtggcc ttctctgaag atgggcagaa gctcattact  
 240  
 gtctccaagg acaaagccat ccatgttcta ga  
 272

<210> 4758

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4758

Xaa	Met	Glu	Ala	Pro	Thr	Arg	Ile	Arg	Asp	Thr	Pro	Glu	Asp	Ile	Val
1				5				10					15		
Leu	Glu	Ala	Pro	Ala	Ser	Gly	Leu	Ala	Phe	His	Pro	Ala	Arg	Asp	Leu
			20				25					30			
Leu	Ala	Ala	Gly	Asp	Val	Asp	Gly	Asp	Val	Phe	Val	Phe	Ser	Tyr	Ser
		35				40				45					
Cys	Gln	Glu	Gly	Glu	Thr	Lys	Glu	Leu	Val	Ile	Arg	Ser	His	Leu	Lys
	50					55				60					
Ala	Cys	Arg	Ala	Val	Ala	Phe	Ser	Glu	Asp	Gly	Gln	Lys	Leu	Ile	Thr
65				70				75					80		
Val	Ser	Lys	Asp	Lys	Ala	Ile	His	Val	Leu						
				85				90							

<210> 4759

<211> 1087

<212> DNA

<213> Homo sapiens

<400> 4759

nccgcccgt tcgttggcac caatggagag gagctgtctt tcaaccagac gacagcagcc  
 60  
 actgtcagcg tccccagga tggctgccc ctccggaag gacagacgaa gacccttttc  
 120  
 gaattcagct cttctcgagc gggatttctg ccctgtggg atgtggcggc cactgacttt  
 180  
 ggccagacga accaaaagtt tgggtttgaa ctgggcccc tctgcttcag cagctgagag  
 240  
 tgtccggggt gggagggacc gtgaggagc ccagaatgg ggtgcatttg gtgctgaggc  
 300  
 ttggaagcca ccgtattttt cgttacctgt gatgatggag ccaatgggat gtgacttcgc  
 360  
 tcatacaggt cagtcattcc ttctccttc cagggtgctg ggggctgggg ttccctggcc  
 420  
 caagggtcca gcctccttc acccattcc aggtggcata ctgcagtctg gctctttctc  
 480  
 cctcctcc ccaccaagc ctcacctcc cacccttga accccatgc aatgagcttc  
 540  
 taactcagag ctgatgaaca aaagcccc caccccaat gcctgcctcc tcactcctcc  
 600



gtcgctgccc ttcacacctt ttggtgctac cctccccag agttaagcac tggatgtctc  
 660  
 ctgatcccag gctgggaccc ctacccccac cccctttgat cctttctact tccacggtga  
 720  
 aaggactgag gtcggactac agagggaaga gggacttccc ttgactgggt tgtgtttctt  
 780  
 ttcctgcctc agcccagctc tgcaaatccc ctccccctgc ccctcacctc cccaggctca  
 840  
 ccttgccatg ccagggtggtt tggggaccaa gatgttgggg gggatgaatca ggatccta  
 900  
 ggtgctgccc tatttatacc tgggtctgta ttaaaaggga aagtcccccc tgtttagat  
 960  
 ttcactgtct tcctccttag ggaaggctgg gatatgatga gagattccag cccaagccc  
 1020  
 gccccccacc gccaggccat agggcataat ttgcatctca aatctgagaa taaactgatg  
 1080  
 aactgtg  
 1087

&lt;210&gt; 4760

&lt;211&gt; 78

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4760

Xaa	Ala	Arg	Phe	Val	Gly	Thr	Asn	Gly	Glu	Glu	Leu	Ser	Phe	Asn	Gln
1				5				10						15	
Thr	Thr	Ala	Ala	Thr	Val	Ser	Val	Pro	Gln	Asp	Gly	Cys	Arg	Leu	Arg
		20						25					30		
Lys	Gly	Gln	Thr	Lys	Thr	Leu	Phe	Glu	Phe	Ser	Ser	Ser	Arg	Ala	Gly
		35				40						45			
Phe	Leu	Pro	Leu	Trp	Asp	Val	Ala	Ala	Thr	Asp	Phe	Gly	Gln	Thr	Asn
	50					55					60				
Gln	Lys	Phe	Gly	Phe	Glu	Leu	Gly	Pro	Val	Cys	Phe	Ser	Ser		
65					70					75					

&lt;210&gt; 4761

&lt;211&gt; 3973

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4761

nccagcccca gcatcgcgcg ccgcagccgc ggccccgcag ctccgcccc ggccccggccc  
 60  
 ggccccgggc ccgctcgccc gccgccccgc atggagctgt cagccatcgg cgagcaggtg  
 120  
 ttcgccgtgg agagcatccg gaagaagcgc gtgcggaagg gtaaagtcga gtatctggtg  
 180  
 aagtggaaag gatggcccc aaagtacagc acgtggggagc cagaagagca catcttggag  
 240  
 cccgcctcg tcatggccta cgaggagaag gaggagagag accgagcatc ggggtatagg  
 300  
 aagagaggtc cgaaacccaa gcggcttctg ctgcagcggc tgtacagcat ggacctgcgg  
 360

agctcccaca aggccaaggg caaggagaag ctctgcttct ccctgacgtg cccactcggc  
420  
agcgggagcc ctgagggggg ggtcaaggcg ggggcacctg agctggtgga caagggcccc  
480  
ttggtgcccc ccctgccctt cccgctccgc aagccccgaa aggcccacaa gtacctgcgg  
540  
ctctcgcgca agaagtcccc gccccgcggg cccaacctgg agagccacag ccatcgacgg  
600  
gagctcttcc tgcaggagcc accggcccca gacgtcctgc aggcggctgg cgagtgggag  
660  
cctgctgcgc agccccctga agaggaggca gatgccgacc tggccgaggg gccccctccc  
720  
tggacacctg cgctccccctc aagtgagggt accgtgaccg acatcaccgc caactccatc  
780  
accgtcacct tccgcgaggg ccaggcagct gagggtcttct tccgagaccg cagtgggaag  
840  
ttctgaatca ccgtttttac tcttcttaaa ctgttttctt ttgggcttgg ggtgggactt  
900  
ccagagatag ggatgggttg ggggcggggg aattatttta tttaaaaaa taccgagcag  
960  
caaaagggga gaagatccca ctactctccc accacctgcc ctttctctga gggacgttta  
1020  
ccacgaggcc tcaggctggg gatggagaga gttgctctgg gagttgggg accacccccca  
1080  
gggcaggatg gggacaggat cacctgcccg ggacaccacc attatcattc tcctctagt  
1140  
acgcagcagc tggttctggg agttaaaagga gcattggaag gcccaaacc ctcctctga  
1200  
gtggccaccc cagcctggtt ggctggtttt ccccttttct cttgtttcaa ttgggtcttt  
1260  
accttgaact ctcctctctg gctttgcggg gggctgtgga ggctggtttt gacaaaaagt  
1320  
gagtggggcg ggaggaaggg gcaggaggaa gggttgaggt tacttggggc gagtcccttc  
1380  
cccttcagag aggccttctat ccttcccagg gaggaggcgc cgctgagacc cttctgctga  
1440  
gagctctgcc ctcctctcat cacctggcct gtgcagaaac gctcatgcac acctggctgc  
1500  
acagggtgtc acgcattacc ctctgcgtgt acgttcccat gtgccccgtg aaagcatgtg  
1560  
tggctgcaga cgtgtccaca tgggccttgc gaacctgggt tagaaacct ggccaggcga  
1620  
acgtgggggtg attcacagca caaaagacct caccaccaca cctgcactca cccaccttg  
1680  
catgcacctt gctacctgct tgcggctttc agtggagggc aggggtctgg cacagggtgcg  
1740  
atggcacccc atgctccagg catacagatg tggtttctcg gctgcaccgg gccaggctgc  
1800  
gggtgtgcag gcgtctgcta agttgtgtga tgtatcagca caggctttga gacgtctgga  
1860  
ccctgtcctt cctcccgtga ggggttcttg ttctttctga ctcagggtgac ttttcagccc  
1920  
ttccaattcc cctcttttct tgccttcccc tccaactcag ccaaccagg tgtgggcagt  
1980

cagggaggga gggagtgtcc caccacgttc tcagggcagc ccttgactcc taagcccctt  
2040  
cctccttcca ttctgcatcc cctccccatc caacctaaat gccacagctg gggctgagct  
2100  
gtattcctgt ggagggacct ctgccgtgcc tctctgaggt caggctgtgc tgtgtgatgg  
2160  
gcaggctttg cccagccca ccctggcaa ggtgcacttg tttctgggtt tgtacaaggt  
2220  
gtcctggggg cccgtggctt ccctgccagt gaggagtgc ttctccctct cttccagtcc  
2280  
tgtaggggag acaaaaccag attggggggc ccaaggggag catggaaaag gccggctccc  
2340  
ctgtctttcc ttggctgtca gagtccgggt aacacacacc aagagtggag tgcggccagc  
2400  
aagtttgaga cctgcccgcc ctctcgcag ctctgctctg tgcctcagg aagtcacaga  
2460  
gtctactgag gcaaggagag ggtgattctt tccccaaatc cttcttccc tgggtccca  
2520  
accaaagaca gcctgcagcc ctttctgcat ggggtgctct gttgacaggc ttcccagatc  
2580  
cctgagtctc tctttccttc ctctcgatc tttagtgtc cacggtcaat tcagtgttc  
2640  
cattgggggg acagtccct cgggatgac ctgattcacc tccagcccag ggaatggaat  
2700  
ctagaggaat acgtggggtg ggtctggaca aggagcggca ggaatcacca cccatctcca  
2760  
gctgtggagc cctgtggagg ggaaggggaa gcttgggggt cagaggggac tcttccagga  
2820  
gaggggtgcc cagcggaggt aaagatgata gagggttgtg gggggtctct agttgaatgt  
2880  
tttgcccat gactttggaa catggctggc agcttccagc agaagtcaag ctccccatcc  
2940  
cccagcggac atgggacctt tttctgctt cctggctact ttcaaagaac tatttgcgca  
3000  
atctgtgggt ctgtggattc acggggcttt ctgtgtgggt gctgcagttg cttttgtctg  
3060  
cagcagcagg acacatcttt cctcttactc aggcccttta tggcccatgg ggaactccgt  
3120  
ggctcagggg gagctgaact ccaggggtgt gacctgggac ggggtgggcct gaggtgccc  
3180  
gctcagggca gccaggtggc tcatgggctg tagtgagcca gctccctggg ggaaaaggct  
3240  
gtgggcccgtt aggaccatcc tccaggacag gtgacctcta tgaggtcacc tacggctgtg  
3300  
gccgtgcagg cctccttcca gccagagtg gccagtaga gcaaggcaga cagtgcctc  
3360  
cacccecgca gccctcttaa aaggccagta ctcttggggg tggggggagg gtttagaaa  
3420  
catttgccca tctgccttcc tttccccag cccccaccg ctttgaatgt agagaccgt  
3480  
gggcactttt ccttttgtgg tgggggggtg ggaggaggta cccccacccc tggcacagcc  
3540  
gcctggaatg caggactgtc actgctgttc gggtagtgac ctggttgcca agctcctcct  
3600

gtcccttgt tctgggggca ggcgtgtgc ttctgtgagg tggtttagct ttgctttcg  
 3660  
 aagtggccag ctgcggccac caggtctcag cacaagagcg cttcctttgc acagaatgag  
 3720  
 cttcgagctt tgttcagact aaatgaatgt atctgggagg ggtcgggggc acgagttgat  
 3780  
 tccaagcaca tgccttttgc gagtgtgtgt gtgctgggag agtcagagtg gatgtagagc  
 3840  
 gcggttttat ttttgtactg acattggtaa gagactgtat agcatctatt tatttagatg  
 3900  
 atttatctgg taaatgaggc aaaaaaatta ttaaaaatac attaaagatg atttaaaaaa  
 3960  
 aagaaaaaaa aaa  
 3973

<210> 4762

<211> 251

<212> PRT

<213> Homo sapiens

<400> 4762

Met	Glu	Leu	Ser	Ala	Ile	Gly	Glu	Gln	Val	Phe	Ala	Val	Glu	Ser	Ile
1				5					10					15	
Arg	Lys	Lys	Arg	Val	Arg	Lys	Gly	Lys	Val	Glu	Tyr	Leu	Val	Lys	Trp
			20					25					30		
Lys	Gly	Trp	Pro	Pro	Lys	Tyr	Ser	Thr	Trp	Glu	Pro	Glu	Glu	His	Ile
		35					40					45			
Leu	Asp	Pro	Arg	Leu	Val	Met	Ala	Tyr	Glu	Glu	Lys	Glu	Glu	Arg	Asp
	50					55					60				
Arg	Ala	Ser	Gly	Tyr	Arg	Lys	Arg	Gly	Pro	Lys	Pro	Lys	Arg	Leu	Leu
65					70					75				80	
Leu	Gln	Arg	Leu	Tyr	Ser	Met	Asp	Leu	Arg	Ser	Ser	His	Lys	Ala	Lys
				85					90				95		
Gly	Lys	Glu	Lys	Leu	Cys	Phe	Ser	Leu	Thr	Cys	Pro	Leu	Gly	Ser	Gly
			100					105					110		
Ser	Pro	Glu	Gly	Val	Val	Lys	Ala	Gly	Ala	Pro	Glu	Leu	Val	Asp	Lys
		115					120					125			
Gly	Pro	Leu	Val	Pro	Thr	Leu	Pro	Phe	Pro	Leu	Arg	Lys	Pro	Arg	Lys
	130					135					140				
Ala	His	Lys	Tyr	Leu	Arg	Leu	Ser	Arg	Lys	Lys	Phe	Pro	Pro	Arg	Gly
145					150					155				160	
Pro	Asn	Leu	Glu	Ser	His	Ser	His	Arg	Arg	Glu	Leu	Phe	Leu	Gln	Glu
				165					170					175	
Pro	Pro	Ala	Pro	Asp	Val	Leu	Gln	Ala	Ala	Gly	Glu	Trp	Glu	Pro	Ala
		180						185					190		
Ala	Gln	Pro	Pro	Glu	Glu	Glu	Ala	Asp	Ala	Asp	Leu	Ala	Glu	Gly	Pro
		195					200				205				
Pro	Pro	Trp	Thr	Pro	Ala	Leu	Pro	Ser	Ser	Glu	Val	Thr	Val	Thr	Asp
	210					215					220				
Ile	Thr	Ala	Asn	Ser	Ile	Thr	Val	Thr	Phe	Arg	Glu	Ala	Gln	Ala	Ala
225					230					235				240	
Glu	Gly	Phe	Phe	Arg	Asp	Arg	Ser	Gly	Lys	Phe					
				245						250					

<210> 4763  
<211> 2158  
<212> DNA  
<213> Homo sapiens

<400> 4763  
nnatttgggtg gcaatattaa atcttctcac gaaattactg agaaatctac tgaagaaact  
60  
gagaaactta aaaatgacca gcaggccaag ataccactaa aaaaacgaga aattaaactg  
120  
agtgatgatt ttgacagtcc agtcaaggga cctttgtgta aatcagttac tccaacaaaa  
180  
gagtttttga aagatgaaat aaaacaagag gaagagactt gtaaaaggat ctctacaatc  
240  
actgctttgg gtcataaggg gaaacagctg gtaaatggag aagttagtga tgaaagggta  
300  
gtcccaaatt ttaagacaga accaatagag acaaagtttt atgagacaaa ggaagagagc  
360  
tatagccctt ctaaggacag aaatatcatc acggagggaa atggaacaga gtccttaaat  
420  
tctgtcataa caagtatgaa aacaggtgag cttgagaaag aaacagcccc tttgaggaaa  
480  
gatgcagata gttcaatatc agtcttagag atccatagtc aaaaagcaca aatagaggaa  
540  
cccgatcctc cagaaatgga aacttctctt gattcttctg agatggcaaa agatctctct  
600  
tcaaaaactg ctttatcttc caccgagtcg tgtaccatga aagggtgaaga gaagtctccc  
660  
aaaactaaga aggataagcg cccaccaatc ctagaatgtc ttgaaaagtt agagaagtcc  
720  
aaaaagactt ttcttgataa ggacgcacaa agattgagtc caataccaga agaagttcca  
780  
aagagtactc tagagtcaga aaagcctggc tctcctgagg cagctgaaac ttctccacca  
840  
tctaatatca ttgaccactg tgagaaacta gcctcagaaa aagaagtggg agaatgccag  
900  
agtacaagta ctggttgggtg ccagtctgtg aaaaaagtag acctagaaac ctaaaaagag  
960  
gattctgagt tcacaaaggt agaaatggat aatctggaca atgcccagac ctctggcata  
1020  
gaggagcctt ctgagacaaa gggttctatg caaaaaagca aattcaaata taagttgggt  
1080  
cctgaagaag aaaccactgc ctcagaaaat acagagataa cctctgaaag gcagaaagag  
1140  
ggcatcaaat taacaatcag gatatcaagt cggaataaga agcccgattc tcccccaaa  
1200  
gttctagaac cagaaaacaa gcaagagaag acagaaaagg aagaggagaa aacaaatgtg  
1260  
ggtcgtactt taagaagatc tccaagaata tctagacca ctgcaaaagt ggctgagatc  
1320  
agagatcaga aagctgataa aaaaagaggg gaaggagaag atgaggtgga agaagagtca  
1380  
acagctttgc aaaaaactga caaaaaggaa attttgaaaa aatcagagaa agatacaaat  
1440

tctaaagtaa gcaaggtaaa acccnnaaag gcaaagttcg atggactggg tctcggacac  
 1500  
 gtggcagatg gaaatattcc agcaatgatg aaagtgaagg gtctggcagt gaaaaatcat  
 1560  
 ctgcagcttc agaagaggag gaagaaaagg aaagtgaaga agccatccnt agcagatgat  
 1620  
 gatgaacat gcaaaaaatg tggccttcca aaccatcctg agctaattct tctgtgtgac  
 1680  
 tcttgcgata gtggatacca tactgctgc ctctgccctc ctctgatgat catcccagat  
 1740  
 ggagaatggg tctgcccacc ttgccaacat aaactgctct gtgaaaaatt agaggaaacag  
 1800  
 ttgcaggatt tggatgttgc cttaaagaag aaagagcgtg ccgaacgaag aaaagaacgc  
 1860  
 ttggtgtatg ttggtatcag tattgaaaac atcattcctc cacaagagcc agacttttct  
 1920  
 gaagatcaag aagaaaagaa aaaagattca aaaaaatcca aagcaaactt gcttgaaagg  
 1980  
 aggtcaacaa gaacaaggaa atgtataagc tacagatttg atgagtttga tgaagcaatt  
 2040  
 gatgaagcta ttgaagatga catcaaagaa gccgatggag gaggagttgg ccgaggaaaa  
 2100  
 gatattctcca ccatcacagg tcatcgtggg aaagacatct ctactatttt ggatgaaa  
 2158

&lt;210&gt; 4764

&lt;211&gt; 719

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4764

Xaa	Phe	Gly	Gly	Asn	Ile	Lys	Ser	Ser	His	Glu	Ile	Thr	Glu	Lys	Ser
1				5					10					15	
Thr	Glu	Glu	Thr	Glu	Lys	Leu	Lys	Asn	Asp	Gln	Gln	Ala	Lys	Ile	Pro
			20					25					30		
Leu	Lys	Lys	Arg	Glu	Ile	Lys	Leu	Ser	Asp	Asp	Phe	Asp	Ser	Pro	Val
		35				40					45				
Lys	Gly	Pro	Leu	Cys	Lys	Ser	Val	Thr	Pro	Thr	Lys	Glu	Phe	Leu	Lys
	50					55				60					
Asp	Glu	Ile	Lys	Gln	Glu	Glu	Thr	Cys	Lys	Arg	Ile	Ser	Thr	Ile	
65				70				75						80	
Thr	Ala	Leu	Gly	His	Glu	Gly	Lys	Gln	Leu	Val	Asn	Gly	Glu	Val	Ser
				85				90						95	
Asp	Glu	Arg	Val	Ala	Pro	Asn	Phe	Lys	Thr	Glu	Pro	Ile	Glu	Thr	Lys
			100					105					110		
Phe	Tyr	Glu	Thr	Lys	Glu	Glu	Ser	Tyr	Ser	Pro	Ser	Lys	Asp	Arg	Asn
		115					120					125			
Ile	Ile	Thr	Glu	Gly	Asn	Gly	Thr	Glu	Ser	Leu	Asn	Ser	Val	Ile	Thr
	130					135					140				
Ser	Met	Lys	Thr	Gly	Glu	Leu	Glu	Lys	Glu	Thr	Ala	Pro	Leu	Arg	Lys
145					150				155					160	
Asp	Ala	Asp	Ser	Ser	Ile	Ser	Val	Leu	Glu	Ile	His	Ser	Gln	Lys	Ala
			165					170						175	
Gln	Ile	Glu	Glu	Pro	Asp	Pro	Pro	Glu	Met	Glu	Thr	Ser	Leu	Asp	Ser

180 185 190  
 Ser Glu Met Ala Lys Asp Leu Ser Ser Lys Thr Ala Leu Ser Ser Thr  
 195 200 205  
 Glu Ser Cys Thr Met Lys Gly Glu Glu Lys Ser Pro Lys Thr Lys Lys  
 210 215 220  
 Asp Lys Arg Pro Pro Ile Leu Glu Cys Leu Glu Lys Leu Glu Lys Ser  
 225 230 235 240  
 Lys Lys Thr Phe Leu Asp Lys Asp Ala Gln Arg Leu Ser Pro Ile Pro  
 245 250 255  
 Glu Glu Val Pro Lys Ser Thr Leu Glu Ser Glu Lys Pro Gly Ser Pro  
 260 265 270  
 Glu Ala Ala Glu Thr Ser Pro Pro Ser Asn Ile Ile Asp His Cys Glu  
 275 280 285  
 Lys Leu Ala Ser Glu Lys Glu Val Val Glu Cys Gln Ser Thr Ser Thr  
 290 295 300  
 Val Gly Gly Gln Ser Val Lys Lys Val Asp Leu Glu Thr Leu Lys Glu  
 305 310 315 320  
 Asp Ser Glu Phe Thr Lys Val Glu Met Asp Asn Leu Asp Asn Ala Gln  
 325 330 335  
 Thr Ser Gly Ile Glu Glu Pro Ser Glu Thr Lys Gly Ser Met Gln Lys  
 340 345 350  
 Ser Lys Phe Lys Tyr Lys Leu Val Pro Glu Glu Glu Thr Thr Ala Ser  
 355 360 365  
 Glu Asn Thr Glu Ile Thr Ser Glu Arg Gln Lys Glu Gly Ile Lys Leu  
 370 375 380  
 Thr Ile Arg Ile Ser Ser Arg Lys Lys Lys Pro Asp Ser Pro Pro Lys  
 385 390 395 400  
 Val Leu Glu Pro Glu Asn Lys Gln Glu Lys Thr Glu Lys Glu Glu Glu  
 405 410 415  
 Lys Thr Asn Val Gly Arg Thr Leu Arg Arg Ser Pro Arg Ile Ser Arg  
 420 425 430  
 Pro Thr Ala Lys Val Ala Glu Ile Arg Asp Gln Lys Ala Asp Lys Lys  
 435 440 445  
 Arg Gly Glu Gly Glu Asp Glu Val Glu Glu Glu Ser Thr Ala Leu Gln  
 450 455 460  
 Lys Thr Asp Lys Lys Glu Ile Leu Lys Lys Ser Glu Lys Asp Thr Asn  
 465 470 475 480  
 Ser Lys Val Ser Lys Val Lys Pro Xaa Lys Ala Lys Phe Asp Gly Leu  
 485 490 495  
 Val Leu Gly His Val Ala Asp Gly Asn Ile Pro Ala Met Met Lys Val  
 500 505 510  
 Lys Gly Leu Ala Val Lys Asn His Leu Gln Leu Gln Lys Arg Arg Lys  
 515 520 525  
 Lys Arg Lys Val Lys Lys Pro Ser Xaa Ala Asp Asp Asp Glu Pro Cys  
 530 535 540  
 Lys Lys Cys Gly Leu Pro Asn His Pro Glu Leu Ile Leu Leu Cys Asp  
 545 550 555 560  
 Ser Cys Asp Ser Gly Tyr His Thr Ala Cys Leu Arg Pro Pro Leu Met  
 565 570 575  
 Ile Ile Pro Asp Gly Glu Trp Phe Cys Pro Pro Cys Gln His Lys Leu  
 580 585 590  
 Leu Cys Glu Lys Leu Glu Glu Gln Leu Gln Asp Leu Asp Val Ala Leu  
 595 600 605  
 Lys Lys Lys Glu Arg Ala Glu Arg Arg Lys Glu Arg Leu Val Tyr Val

610	615	620
Gly Ile Ser Ile Glu Asn Ile Ile Pro Pro Gln Glu Pro Asp Phe Ser		
625	630	635
Glu Asp Gln Glu Glu Lys Lys Lys Asp Ser Lys Lys Ser Lys Ala Asn		
	645	650
Leu Leu Glu Arg Arg Ser Thr Arg Thr Arg Lys Cys Ile Ser Tyr Arg		
	660	665
Phe Asp Glu Phe Asp Glu Ala Ile Asp Glu Ala Ile Glu Asp Asp Ile		
	675	680
Lys Glu Ala Asp Gly Gly Gly Val Gly Arg Gly Lys Asp Ile Ser Thr		
	690	695
Ile Thr Gly His Arg Gly Lys Asp Ile Ser Thr Ile Leu Asp Glu		
705	710	715

&lt;210&gt; 4765

&lt;211&gt; 1707

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4765

ctgcaggcca agtacaacag caccgagggac atgctggatg atgatgggga caccaccatg  
 60  
 agcctgcatt ctcaagcctc tgccacaact cggcatccag agccccggcg cacagagcac  
 120  
 agggctccct cttcaacgtg gcgaccagtg gccctgaccc tgctgacttt gtgcttggtg  
 180  
 ctgctgatag ggctggcagc cctggggcctt ttgttttttc agtactacca gctctccaat  
 240  
 actggtcaag acaccatttc tcaaattgga gaaagattag gaaatacgtc ccaagagttg  
 300  
 caatctcttc aagtccagaa tataaagctt gcaggaagtc tgcagcatgt ggctgaaaaa  
 360  
 ctctgtcgtg agctgtataa caaagctgga gcacacaggt gcagcccttg tacagaacaa  
 420  
 tggaaatggc atggagacaa ttgctaccag ttctataaag acagcaaaaag ttgggaggag  
 480  
 tgtaaatatt tctgccttag tgaaaactct accatgctga agataaacia acaagaagac  
 540  
 ctggaatttg ccgcgtctca gagctactct gagtttttct actcttattg gacagggcct  
 600  
 ttgcgccctg acagtggcaa ggcctggctg tggatggatg gaaccccttt cacttctgaa  
 660  
 ctgttcata ttataataga tgtcaccagc ccaagaagca gagactgtgt ggccatcctt  
 720  
 aatgggatga tcttctcaaa ggactgcaaa g attgaagc gttgtgtctg tgagagaagg  
 780  
 gcaggaatgg tgaagccaga gagcctccat gtccccctg aaacattagg cgaaggtgac  
 840  
 tgattcgccc tctgcaacta caaatagcag agtgagccag gcggtgccaa agcaagggct  
 900  
 agttgagaca ttgggaaatg gaacataatc aggaaagact atctctctga ctagtacaaa  
 960  
 atgggttctc gtgtttctctg ttcaggatca ccagcatttc tgagcttggg tttatgcacg  
 1020



tatttaacag tcacaagaag tcttatttac atgccaccaa ccaacctcag aaaccataa  
 1080  
 tgtcatctgc cttcttggtc tagagataac ttttagctct ctttcttctc aatgtctaata  
 1140  
 atcacctccc tgttttcatg tcttccttac acttggtgga ataagaaact ttttgaagta  
 1200  
 gaggaataac attgaggtaa catccttttc tctgacagtc aagtagtcca tcagaaattg  
 1260  
 gcagtcactt cccagattgt accagcaaat acacaaggaa ttctttttgt ttgtttcagt  
 1320  
 tcatactagt cccttcccaa tccatcagta aagaccccat ctgccttgtc catgccgttt  
 1380  
 cccaacaggg atgtcacttg atatgagaat ctcaaattctc aatgccttat aagcattcct  
 1440  
 tcctgtgtcc attaagactc tgataattgt ctccccctcca taggaatttc tcccaggaaa  
 1500  
 gaaatatatc cccatctccg tttcatatca gaactaccgt ccccgatatt cccttcagag  
 1560  
 agattaaaga ccagaaaaaa gtgagcctct tcactctgcac ctgtaatagt ttcagttcct  
 1620  
 attttcttcc attgacccat atttatacct ttcaggtact gaagatttaa taataataaa  
 1680  
 tgtaaatact gtgaaaaaaaa aaaaaaa  
 1707

&lt;210&gt; 4766

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4766

Leu Gln Ala Lys Tyr Asn Ser Thr Arg Asp Met Leu Asp Asp Asp Gly  
 1 5 10 15  
 Asp Thr Thr Met Ser Leu His Ser Gln Ala Ser Ala Thr Thr Arg His  
 20 25 30  
 Pro Glu Pro Arg Arg Thr Glu His Arg Ala Pro Ser Ser Thr Trp Arg  
 35 40 45  
 Pro Val Ala Leu Thr Leu Leu Thr Leu Cys Leu Val Leu Leu Ile Gly  
 50 55 60  
 Leu Ala Ala Leu Gly Leu Leu Phe Phe Gln Tyr Tyr Gln Leu Ser Asn  
 65 70 75 80  
 Thr Gly Gln Asp Thr Ile Ser Gln Met Glu Glu Arg Leu Gly Asn Thr  
 85 90 95  
 Ser Gln Glu Leu Gln Ser Leu Gln Val Gln Asn Ile Lys Leu Ala Gly  
 100 105 110  
 Ser Leu Gln His Val Ala Glu Lys Leu Cys Arg Glu Leu Tyr Asn Lys  
 115 120 125  
 Ala Gly Ala His Arg Cys Ser Pro Cys Thr Glu Gln Trp Lys Trp His  
 130 135 140  
 Gly Asp Asn Cys Tyr Gln Phe Tyr Lys Asp Ser Lys Ser Trp Glu Asp  
 145 150 155 160  
 Cys Lys Tyr Phe Cys Leu Ser Glu Asn Ser Thr Met Leu Lys Ile Asn  
 165 170 175  
 Lys Gln Glu Asp Leu Glu Phe Ala Ala Ser Gln Ser Tyr Ser Glu Phe

	180		185		190
Phe Tyr Ser Tyr Trp Thr Gly Leu	Leu Arg Pro Asp Ser Gly Lys Ala				
195	200	205			
Trp Leu Trp Met Asp Gly Thr Pro	Phe Thr Ser Glu Leu Phe His Ile				
210	215	220			
Ile Ile Asp Val Thr Ser Pro Arg	Ser Arg Asp Cys Val Ala Ile Leu				
225	230	235			240
Asn Gly Met Ile Phe Ser Lys Asp	Cys Lys Glu Leu Lys Arg Cys Val				
	245	250			255
Cys Glu Arg Arg Ala Gly Met Val	Lys Pro Glu Ser Leu His Val Pro				
	260	265			270
Pro Glu Thr Leu Gly Glu Gly Asp					
275	280				

&lt;210&gt; 4767

&lt;211&gt; 1380

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4767

```

nngaggaggg ggcgcggtagc gccgccagag aggggggtgg gcaatggccg ggccccggaa
60
gtggcccctg aggaggtaga tgaatccaag aaggaggact tctcggaggc ggacttggtg
120
gacgtgagcg cctacagtgg gctcggggag gactctgcgg gcagtgccct ggaggaggac
180
gacgaagacg acgaggggga tggggagccc ccctacgagc ccgagtcggg gtgctgagg
240
atcccggggc tgtcggagga ggaggaccca gccccgagcc ggaagatcca tttcagcacg
300
gcgcccattc aagtgttcag cacttactcc aacgaggatt acgatcgtcg caacgaggat
360
gtggatccca tggcagcctc tgctgagtag gagctggaga agcgtgtgga gaggttgagg
420
ctgttccctg tggagctgga gaaggactcc gagggcctgg gcatcagcat catcggcgat
480
ggcgccgggg cagacatggg cctggagaag ctgggtatct tcgtcaagac cgtgacggag
540
ggtggtgcgg cccatcgga tggcaggatc caggatgaatg atctcctggt ggaggtggat
600
ggaacaagtc tggtagggag gaccagagc ttcgcgccgt ctgtgctccg gaacaccaag
660
ggccgagtcg ggtttatgat tggccgggag cggccgggag agcagagcga agtggcccg
720
ctaattcagc agactttgga acaggagcga tggcagcggg agatgatgga gcagagatac
780
gccagtatg gggaggatga cgaggagacg ggagagtatg ccactgacga ggatgaggag
840
ctgagcccca cgttcccggg tggtagatg gccatcgagg tggttgagct agcggagaac
900
gaggatgcac tgtcccctgt ggacatggag cccgagaagc tggtagcaca gttcaaggag
960
ctccagatca agcatgcggt cactgaggca gagatccagc agctgaaaag aaagctgcag
1020

```

agcctggagc aggagaaggg gcgctggcgg gtggagaagg cgcagttgga gcagagtgtg  
 1080  
 gaggagaaca aggagcgcac ggagaaactg gaaggctact ggggtgaggc ccagagcctg  
 1140  
 tgccaggctg tggacgagca cctgcgggag actcaggcgc agtaccaggc cctggagcgc  
 1200  
 aagtacagca aggccaagcg cctcatcaag gactaccagc agaaggagat cgagttcctg  
 1260  
 aaaaaggaga ctgcacagcg tcgggttctg gaggagtcgg agctggccag aaaggaggag  
 1320  
 atggacaagc tcctggacaa gatctcagaa ctggaaggaa acttgcaaac actgaggaat  
 1380

<210> 4768

<211> 460

<212> PRT

<213> Homo sapiens

<400> 4768

Xaa	Arg	Arg	Gly	Ala	Val	Ala	Pro	Pro	Glu	Arg	Gly	Val	Gly	Asn	Gly
1				5					10					15	
Arg	Ala	Pro	Glu	Val	Ala	Pro	Glu	Glu	Val	Asp	Glu	Ser	Lys	Lys	Glu
			20					25					30		
Asp	Phe	Ser	Glu	Ala	Asp	Leu	Val	Asp	Val	Ser	Ala	Tyr	Ser	Gly	Leu
			35				40					45			
Gly	Glu	Asp	Ser	Ala	Gly	Ser	Ala	Leu	Glu	Glu	Asp	Asp	Glu	Asp	Asp
			50			55					60				
Glu	Gly	Asp	Gly	Glu	Pro	Pro	Tyr	Glu	Pro	Glu	Ser	Gly	Cys	Val	Glu
65					70					75				80	
Ile	Pro	Gly	Leu	Ser	Glu	Glu	Glu	Asp	Pro	Ala	Pro	Ser	Arg	Lys	Ile
			85					90						95	
His	Phe	Ser	Thr	Ala	Pro	Ile	Gln	Val	Phe	Ser	Thr	Tyr	Ser	Asn	Glu
			100					105					110		
Asp	Tyr	Asp	Arg	Arg	Asn	Glu	Asp	Val	Asp	Pro	Met	Ala	Ala	Ser	Ala
			115				120					125			
Glu	Tyr	Glu	Leu	Glu	Lys	Arg	Val	Glu	Arg	Leu	Glu	Leu	Phe	Pro	Val
			130				135				140				
Glu	Leu	Glu	Lys	Asp	Ser	Glu	Gly	Leu	Gly	Ile	Ser	Ile	Ile	Gly	Met
145					150				155					160	
Gly	Ala	Gly	Ala	Asp	Met	Gly	Leu	Glu	Lys	Leu	Gly	Ile	Phe	Val	Lys
			165					170					175		
Thr	Val	Thr	Glu	Gly	Gly	Ala	Ala	His	Arg	Asp	Gly	Arg	Ile	Gln	Val
			180					185					190		
Asn	Asp	Leu	Leu	Val	Glu	Val	Asp	Gly	Thr	Ser	Leu	Val	Gly	Val	Thr
			195				200				205				
Gln	Ser	Phe	Ala	Ala	Ser	Val	Leu	Arg	Asn	Thr	Lys	Gly	Arg	Val	Arg
			210			215					220				
Phe	Met	Ile	Gly	Arg	Glu	Arg	Pro	Gly	Glu	Gln	Ser	Glu	Val	Ala	Gln
225					230				235					240	
Leu	Ile	Gln	Gln	Thr	Leu	Glu	Gln	Glu	Arg	Trp	Gln	Arg	Glu	Met	Met
			245					250					255		
Glu	Gln	Arg	Tyr	Ala	Gln	Tyr	Gly	Glu	Asp	Asp	Glu	Glu	Thr	Gly	Glu
			260				265						270		
Tyr	Ala	Thr	Asp	Glu	Asp	Glu	Glu	Leu	Ser	Pro	Thr	Phe	Pro	Gly	Gly

275	280	285
Glu Met Ala Ile Glu Val Phe	Glu Leu Ala Glu Asn Glu Asp Ala Leu	
290	295	300
Ser Pro Val Asp Met Glu Pro Glu Lys Leu Val His Lys Phe Lys Glu		
305	310	315
Leu Gln Ile Lys His Ala Val Thr Glu Ala Glu Ile Gln Gln Leu Lys		320
	325	330
Arg Lys Leu Gln Ser Leu Glu Gln Glu Lys Gly Arg Trp Arg Val Glu		335
	340	345
Lys Ala Gln Leu Glu Gln Ser Val Glu Glu Asn Lys Glu Arg Met Glu		350
	355	360
Lys Leu Glu Gly Tyr Trp Gly Glu Ala Gln Ser Leu Cys Gln Ala Val		365
	370	375
Asp Glu His Leu Arg Glu Thr Gln Ala Gln Tyr Gln Ala Leu Glu Arg		380
385	390	395
Lys Tyr Ser Lys Ala Lys Arg Leu Ile Lys Asp Tyr Gln Gln Lys Glu		400
	405	410
Ile Glu Phe Leu Lys Lys Glu Thr Ala Gln Arg Arg Val Leu Glu Glu		415
	420	425
Ser Glu Leu Ala Arg Lys Glu Glu Met Asp Lys Leu Leu Asp Lys Ile		430
	435	440
Ser Glu Leu Glu Gly Asn Leu Gln Thr Leu Arg Asn		445
450	455	460

&lt;210&gt; 4769

&lt;211&gt; 1533

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4769

```

tttttttttt tttttttttt tttttttttt tttttttttt ttttttgtcc aaaactcttc
60
tttatttcaa gatgatgttt ctgtggctat gtgtgggtatg tggatataaat ctcaatctat
120
ggtcacacga ggggcatttt ccttggtgta agtgtagtct aaaccagtag gaaggaggtt
180
taattgccaa aaccagcgag aactcgggca ctgtggatac tacagtgggc agctgaacga
240
ggaccaagga gaatgtctaa gaggcctcca gccctgcgct cagtgaagac aggacaggaa
300
caacagagca tacatacctt ggaagggtgt gttctgatat actcgtatgg aaagttctga
360
caggttttct ccctgggaag tgcagcacat accccaacac actggctctg ccagtgtgcc
420
aatcccagat ggtgcttgct ttgtgtgcac ccacacccaa acccctgccc tcccatatgc
480
tcttctgtgt gccaggttag gccctgccct caggcagcag cttctgaaca cattcctctt
540
ggcgcagaca aaagaaagta cttcgtctgt ggaattcgag gctgagcctg agttctagca
600
caagaagacc gttgcagtcc agagatgaga aactggacca gaggcaaadc atgaacagaa
660
cgggagtcaa gagaaggggt ttctaagatg gagaagtggg ggcgggtgtg gatccagtgg
720

```

gatgtggctt ccccagggtg caacccaag gaagtctctg gaagcagcac cagtcttgat  
 780  
 gggggagcag aagagctgcc atcctcagtc aggggtccgag tcagggtccg aggagagctg  
 840  
 ctgctccata gtctcgaca tggcatcctg cagggaagta agatgacccc ggggactcat  
 900  
 cccattggc tggatgactc tgttctgtt ggggaaaggt gcagtggggc tggagagctt  
 960  
 gtcaaacatg gtcaccagct tcatggcctc gtgctccttc tgctcctctg tcatgccctc  
 1020  
 cataggggta ggcggcttct cctccaccct cccggtcaca gggtttatgc tggctttggc  
 1080  
 ttccttgtag tcatctgtgt ctgtgtctc atcctctgag tactggcctt cgggccggcc  
 1140  
 tcctgccatg agggccctgg cagccagaag gccagcagca tcccatagc ctgtgtactt  
 1200  
 gatgaatcgg ggcacactct cagagcacag gacaaacaag aactcggcag ccaccctctt  
 1260  
 cacatctgtg tccaggtgtg tcatgaggcg gacaagcttg tttcggagca ggtccccac  
 1320  
 ctcaggccga gtctcacat cccgcagagg gggcaggacc tgggccttca ggaacttct  
 1380  
 ggcaggacgg tgcattcggg cacattctgt caacacgctc agcaccgggtg ccacacactc  
 1440  
 cttcagcctg tgggtctggt gcagacgctt ctctaggaag gcaaggaggg cattgatcac  
 1500  
 atccatatta actcccataa actctaagga tcc  
 1533

&lt;210&gt; 4770

&lt;211&gt; 237

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4770

Met	Gly	Val	Asn	Met	Asp	Val	Ile	Asn	Ala	Leu	Leu	Ala	Phe	Leu	Glu
1				5					10					15	
Lys	Arg	Leu	His	Gln	Thr	His	Arg	Leu	Lys	Glu	Cys	Val	Ala	Pro	Val
			20						25				30		
Leu	Ser	Val	Leu	Thr	Glu	Cys	Ala	Arg	Met	His	Arg	Pro	Ala	Arg	Lys
	35					40					45				
Phe	Leu	Lys	Ala	Gln	Val	Leu	Pro	Pro	Leu	Arg	Asp	Val	Arg	Thr	Arg
	50				55					60					
Pro	Glu	Val	Gly	Asp	Leu	Leu	Arg	Asn	Lys	Leu	Val	Arg	Leu	Met	Thr
65				70					75					80	
His	Leu	Asp	Thr	Asp	Val	Lys	Arg	Val	Ala	Ala	Glu	Phe	Leu	Phe	Val
			85					90						95	
Leu	Cys	Ser	Glu	Ser	Val	Pro	Arg	Phe	Ile	Lys	Tyr	Thr	Gly	Tyr	Gly
			100					105					110		
Asn	Ala	Ala	Gly	Leu	Leu	Ala	Ala	Arg	Gly	Leu	Met	Ala	Gly	Gly	Arg
	115					120					125				
Pro	Glu	Gly	Gln	Tyr	Ser	Glu	Asp	Glu	Asp	Thr	Asp	Thr	Asp	Glu	Tyr
	130					135				140					
Lys	Glu	Ala	Lys	Ala	Ser	Ile	Asn	Pro	Val	Thr	Gly	Arg	Val	Glu	Glu

145		150		155		160									
Lys	Pro	Pro	Asn	Pro	Met	Glu	Gly	Met	Thr	Glu	Glu	Gln	Lys	Glu	His
			165					170						175	
Glu	Ala	Met	Lys	Leu	Val	Thr	Met	Phe	Asp	Lys	Leu	Ser	Ser	Pro	Thr
			180					185						190	
Ala	Pro	Phe	Pro	Asn	Arg	Asn	Arg	Val	Ile	Gln	Pro	Met	Gly	Met	Ser
			195					200					205		
Pro	Arg	Gly	His	Leu	Thr	Ser	Leu	Gln	Asp	Ala	Met	Cys	Glu	Thr	Met
		210				215					220				
Glu	Gln	Gln	Leu	Ser	Ser	Asp	Pro	Asp	Ser	Asp	Pro	Asp			
225						230					235				

&lt;210&gt; 4771

&lt;211&gt; 2653

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4771

```

nttttttttt ttttttatgg cttctttgag tctttatttc cttggtgagg cagggcccca
60
gggtgggggtg ggctgcctgg ctgaggctcc tgtagacca ccaacctagg ggcacttttc
120
tgggcaccac aggtaaggca ctgcctgggg gctggaggag gctggaggag gatgcccaag
180
ctccccacac tcctcacccc agaccgggga agctggatat cctccgtgtt gtcctctccc
240
catagctggt ctgaggctgt ggtttacacg caggcacagg taggcgattc tgagcatcaa
300
cgcatatgga ggggaggggtg agccgtcgtg ggagaactgg cccaagacca gcacctggct
360
ggtgtcgcca gccccggctg cattggtggg tgaggcaggt ctggctggag tctgggtctg
420
caggcctggc cggggcaggt tgtgggggac caaggagccc tgggtgtgaa cccactgtg
480
gaggcagcag gcacctagtg gtgccactgg gacaccggc tccaggactc cggatgtcac
540
acatgcgtga gtcttggcgt ctacaccccc ctcggggcca gtgggtgagc agtggcccg
600
ggtccccgcc agagctcccc cagagtggac ttggtccgc cggacacagt gccctgctct
660
gagctgccgc tggctgctcc acgtctgaga ccacgcgacg ttgcctcatg aactgacgtg
720
gacagcagca ggggagacgc tgggtggttc tgtggccaag cacagcccgt gtcaggagca
780
caggccgtgc cctttcccag ggggcacact gggcatttct caatggcctt cacaggacgc
840
aaaggggcac acagaggcag tggggaagct ggagttcttg ggctggcagg gaatggtggc
900
agccttcttg gccttcatga agggcctggc ttgctgggct aaggtcacag tgttctgagg
960
tccccacacg cactcagact agaccctccg tacacacca ggctagaccc tccataactca
1020
cccaggctag accctccata cacaccagg ctagaccctc catactcacc caggctagac
1080

```

cctccataca caccaggt agaccctcca tactcaccca ggctagacc tccatactca  
1140  
cccaggctag atcctccata cacaccagg ctagactctc cgtactcacc caggctagat  
1200  
cctccgtact caccaggt agaccctccg tactcaccca ggctagacc tccgtacaca  
1260  
cccaggctag accctccgta cacaccaga ctagaggctt ggggctgaga aaagcagtca  
1320  
tgccctctca ggaattacca gcagagaatg cccagccctc ttgatagtag caataattaa  
1380  
taggtttatc cccaaaggag cggaagctgt ggaatcctcc ccggcaatag gtcttaggg  
1440  
aggggctggg gcatcctaga gaagggccct aaatcaggcg ctcagtgtcc ggaacgcagg  
1500  
tctatccac ccaccagccg gccccaggc ctcccttct cagtccttcc aggatatcgt  
1560  
cagggaggtt ctgggatccc caagtggctc gaatccgggc tctaaggagt gtccgtggca  
1620  
tataaattag actctgctgt ggcaataaat aagaagctgg aaaaggaaaa agaaaagtta  
1680  
aagcaagaaa gactagagaa aataaaacag cgtgataaga ggctggagtg ggaaatgatg  
1740  
tgcagagtaa agccagatgt tgtccaagac aaagagacag agagaaatct tcagagaatt  
1800  
gcaacaagggt gtgtgggtgca attatttaatt gctgttcaga aacatcaaaa gaatgttgat  
1860  
gaaaagggtta aggaagctgg aagtctatg agaaagcgtg ctaagttgat atcaactgtt  
1920  
tccaagaaag atttcatcag tgttttgaga gggatggatg gaagtacaaa tgagactgct  
1980  
tcaagcagga agaaacaaa agccaaacag actgaagtga aatcagaaga aggccagggt  
2040  
tggacgatcc tacgtgatga tttcatgatg ggagcatcta tgaaagactg ggacaaggaa  
2100  
agtgtgggc cagatgacag cagaccagaa tctgcaagtg actctgatac ataaagcatc  
2160  
ataggaaata caattgcagt cgttttatct tttctagaaa aatatgtcat cctctgatag  
2220  
ttggggaatt ataaggatac catttgtaag aaagccaaaa gacttttgcc agatttcata  
2280  
tttccccctt tcatgtacac tttatatata cttcattaaa attatatctt aaacccttgt  
2340  
ataattttta gcatgttcc tcagaacatt tgtaaaagga tatatttctg cttgaccagg  
2400  
gagatgtgca ttttgccagg atcatattgg tcatgtctat tgggtgatta tttcagtatc  
2460  
accaatgttt tcagaaatac agtactaatt catcattaaa ctctttgaag ttaatatctt  
2520  
tctgccttct aacttataga ctcaactatg tatctgtagt ttttggaat ggttgggtt  
2580  
ttttgctttg tgttgggaag ttattgagaa aacctatata ataaaattta aaattatagt  
2640  
ttttcaaaaa aaa  
2653

&lt;210&gt; 4772

&lt;211&gt; 182

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4772

Gly Val Ser Val Ala Tyr Lys Leu Asp Ser Ala Val Ala Ile Asn Lys  
 1 5 10 15  
 Lys Leu Glu Lys Glu Lys Glu Lys Leu Lys Gln Glu Arg Leu Glu Lys  
 20 25 30  
 Ile Lys Gln Arg Asp Lys Arg Leu Glu Trp Glu Met Met Cys Arg Val  
 35 40 45  
 Lys Pro Asp Val Val Gln Asp Lys Glu Thr Glu Arg Asn Leu Gln Arg  
 50 55 60  
 Ile Ala Thr Arg Gly Val Val Gln Leu Phe Asn Ala Val Gln Lys His  
 65 70 75 80  
 Gln Lys Asn Val Asp Glu Lys Val Lys Glu Ala Gly Ser Ser Met Arg  
 85 90 95  
 Lys Arg Ala Lys Leu Ile Ser Thr Val Ser Lys Lys Asp Phe Ile Ser  
 100 105 110  
 Val Leu Arg Gly Met Asp Gly Ser Thr Asn Glu Thr Ala Ser Ser Arg  
 115 120 125  
 Lys Lys Pro Lys Ala Lys Gln Thr Glu Val Lys Ser Glu Glu Gly Pro  
 130 135 140  
 Gly Trp Thr Ile Leu Arg Asp Asp Phe Met Met Gly Ala Ser Met Lys  
 145 150 155 160  
 Asp Trp Asp Lys Glu Ser Asp Gly Pro Asp Asp Ser Arg Pro Glu Ser  
 165 170 175  
 Ala Ser Asp Ser Asp Thr  
 180

&lt;210&gt; 4773

&lt;211&gt; 319

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4773

gctagcagga ggggaggttaa attaatgtaaa tggagatggc ctgggatgca ggccagctgg  
 60  
 gaggagtctc cagtgggagg ggcagctcag agagcaacag agggagataa gattcctaaa  
 120  
 tgctgcaggc cccagcccag gcccaacca agcagtctct tcccaccag cccccaggcc  
 180  
 cgggcgga tggggtggcg agtacttgcc tgaccagc atcccatctc ctcagctctc  
 240  
 agcctggacc cagcatccca tctcctcagc tctcagggag gtggaagctg ggaacccac  
 300  
 ccccaacccc ttcacgcgt  
 319

&lt;210&gt; 4774

&lt;211&gt; 91

&lt;212&gt; PRT



<213> Homo sapiens

<400> 4774

```

Met Gln Ala Ser Trp Glu Glu Ser Pro Val Gly Gly Ala Ala Gln Arg
 1           5           10           15
Ala Thr Glu Gly Asp Lys Ile Pro Lys Cys Cys Arg Pro Gln Pro Arg
      20           25           30
Pro Asn Pro Ser Ser Leu Phe Pro Pro Ser Pro Gln Ala Arg Ala Ala
      35           40           45
Met Gly Trp Arg Val Leu Ala Trp Thr Gln His Pro Ile Ser Ser Ala
      50           55           60
Leu Ser Leu Asp Pro Ala Ser His Leu Leu Ser Ser Gln Gly Gly Gly
65           70           75           80
Ser Trp Glu Pro His Pro Gln Pro Leu His Ala
      85           90

```

<210> 4775

<211> 433

<212> DNA

<213> Homo sapiens

<400> 4775

```

ggatcccaca ggagatacct gacaaggact aagaggaggc ttcccagagg gcataacacc
60
tatgctggat cttttggagg aaaaaataat tgtcaggaga aaaggagtga aaaagacctt
120
tgggcttaaa catgaaccaa catggcggat gcttcaagca agtgggggtg ctgggcccta
180
aaggtggaga ggggtgaaat gaaaagactc gcctcttctt cccccactaa ctccctctc
240
tggctgcact gccctccttg ctatttcttt gaacgtgcca accataccgc gacctcactg
300
cccttgact tgctctctct gcttctccta actatacatg cggtcatcc tgtaacttcc
360
tttcagtttt tgctcacctt cttgaaaagg ccttctctga ccattctgtt taatattcca
420
ccccgcttaa acg
433

```

<210> 4776

<211> 97

<212> PRT

<213> Homo sapiens

<400> 4776

```

Met Ala Asp Ala Ser Ser Lys Trp Gly Cys Trp Ala Leu Lys Val Glu
 1           5           10           15
Arg Gly Glu Met Lys Arg Leu Ala Ser Ser Ser Pro Thr Asn Ser Leu
      20           25           30
Leu Trp Leu His Cys Pro Pro Cys Tyr Phe Phe Glu Arg Ala Asn His
      35           40           45
Thr Ala Thr Ser Leu Pro Leu His Leu Leu Ser Leu Leu Leu Thr
      50           55           60
Ile His Ala Ala His Pro Val Thr Ser Phe Gln Phe Leu Leu Thr Phe

```



aaaataggaa aaatgattgt taatgctgac tgtgggtctt aaaagggtctt ggaaagcagt  
 1320  
 aagttcattt ttctaaaaac tataacattc tgttgaggta ttttcttcct tacgtcaata  
 1380  
 cttttcctgc attatttgaa attgtgggct ggggagaaac agtagtcaaa gctttctgaa  
 1440  
 ttgagatact ttgaaattcc aagtgtagat ttttagaatg tcattttata aatggcagtt  
 1500  
 tttggaatta cttgataaga acttttgaaa atggaaggat tagtatggcc tatttttaaa  
 1560  
 gctgctttgt taggttcctt atgttttatt aactgtcttt tctcagtttc catttcattt  
 1620  
 tttttttcta gttttggtga cttagtgatt ttgtcatttt ttacatcaac ttcatggctt  
 1680  
 tgtttttaca tggtaattgc atgtacttag gatctatcta ataggggctt taaataaatt  
 1740  
 tggcatatt tatgtgtaag cacattttac tgtaaatgtt tgggtttctg aatttaaaca  
 1800  
 gatctgttta tttcagtatg tagtaaaca tatcttaaag tgtccgattc actacttggt  
 1860  
 aattaaaaaa gttatgatta atgtgaaact gttgtcttac tattttttaga aaattgtggt  
 1920  
 ctggatgatt agcacatgga taaaggagat ttctggaata taaaatggat tgtttttgaa  
 1980  
 atttctaggt ttggctctat ttactgtaat ggttgaaaac aatttagtat ttgggtgacc  
 2040  
 cttttgtttt tcttctaaat gtgctctg taaaatacag aactagacta aagatgtagc  
 2100  
 tttttaatat ttgtcttttg atgggtggcag gagttcatac attaattgaa ctaacacatc  
 2160  
 atattttgac ctactatttc tatcatattg acttactggt  
 2200

&lt;210&gt; 4778

&lt;211&gt; 144

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4778

Ala	Ala	Ala	Ala	Arg	Leu	Asn	Arg	Leu	Lys	Lys	Lys	Glu	Tyr	Val	Met
1			5					10						15	
Gly	Leu	Glu	Ser	Arg	Val	Arg	Gly	Leu	Ala	Ala	Glu	Asn	Gln	Glu	Leu
		20						25					30		
Arg	Ala	Glu	Asn	Arg	Glu	Leu	Gly	Lys	Arg	Val	Gln	Ala	Leu	Gln	Glu
		35					40					45			
Glu	Ser	Arg	Tyr	Leu	Arg	Ala	Val	Leu	Ala	Asn	Glu	Thr	Gly	Leu	Ala
	50					55					60				
Arg	Leu	Leu	Ser	Arg	Leu	Ser	Gly	Val	Gly	Leu	Arg	Leu	Thr	Thr	Ser
65				70						75				80	
Leu	Phe	Arg	Asp	Ser	Pro	Ala	Gly	Asp	His	Asp	Tyr	Ala	Leu	Pro	Val
			85					90					95		
Gly	Lys	Gln	Lys	Gln	Asp	Leu	Leu	Glu	Glu	Asp	Asp	Ser	Ala	Gly	Gly
		100					105					110			
Val	Cys	Leu	His	Val	Asp	Lys	Asp	Lys	Val	Ser	Val	Glu	Phe	Cys	Ser

	115		120		125
Ala	Cys	Ala	Arg	Lys	Ala
		Ser	Ser	Ser	Leu
		Lys	Ile	Phe	Phe
		Phe	Phe	Arg	
130		135		140	

<210> 4779  
 <211> 4467  
 <212> DNA  
 <213> Homo sapiens

<400> 4779  
 gcggaccggc cgggtggagg ccacacgcta ccccgaggct gcgtaggccg cgccaagggg  
 60  
 gacgccgtgc cgtgggcctg gggtcggggg agcagcagac cggaagcac cgtgaggacc  
 120  
 gaggatttgg ggtggaaggc aggcattgtc aaacccattt cactgacagg agagcagaga  
 180  
 caggacgtgt ctctctccac gtcttccagc cagtaaaaga agccaagctg gagcccaaag  
 240  
 ccaggtgttc tgactcccag cgtgggggtc cctgcaccaa ccatgagccg cctgctctgg  
 300  
 aggaaggtgg ccggcgccac cgtcgggcca gggccgggtc cagctccggg gcgctgggtc  
 360  
 tccagctccg tccccgcgtc cgaccccagc gacgggcagc ggcgggcgga gcagcagcag  
 420  
 cagcagcagc agcagcagca gcagcaacag cagcctcagc agccgcaagt gctatcctcg  
 480  
 gagggcgggc agctgcggca caaccattg gacatccaga tgctctcgag agggctgcac  
 540  
 gagcaaatct tcgggcaagg aggggagatg cctggcgagg ccgcggtgcg ccgcagcgtc  
 600  
 gaggacctgc agaagcacgg gctctggggg cagccagccg tgcccttgcc cgacgtggag  
 660  
 ctgcgcctgc cgccctctta cggggacaac ctggaccagc acttccgcct cctggcccag  
 720  
 aagcagagcc tgccctacct ggaggcggcc aacttgctgt tgcaggccca gctgcccccg  
 780  
 aagcccccg cttgggcctg ggcgaggggc tggaccgggt acggccccga gggggaggcc  
 840  
 gtaccctggt ccatccccga ggagcgggcc ctggtgttcg acgtggaggt ctgcttgga  
 900  
 gagggaactt gccccacatt ggcggtggcc atatccccct cggcctggta ttctggtgc  
 960  
 agccagcggc tggtggaaga gcgttactct tggaccagcc agctgtcgcc ggctgacctc  
 1020  
 atccccctgg aggtccctac tggtgccagc agccccaccc agagagactg gcaggagcag  
 1080  
 ttagtggtgg ggcacaatgt ttcctttgac cgagctcata tcaggagca gtacctgatc  
 1140  
 cagggttccc gcatgcgttt cctggacacc atgagcatgc acatggccat ctcagggcta  
 1200  
 agcagcttcc agcgcagtct gtggatagca gccaagcagg gcaaacacaa ggtccagccc  
 1260  
 cccacaaagc aaggccagaa gtcccagagg aaagccagaa gaggcccagc gatctcatcc  
 1320

tgggactggc tggacatcag cagtgtcaac agtctggcag aggtgcacag actttatgta  
1380  
ggggggcctc ccttagagaa ggagcctcga gaactgtttg tgaagggcac catgaaggac  
1440  
attcgtgaga acttccagga cctgatgcag tactgtgccc aggacgtgtg ggccacccat  
1500  
gaggttttcc agcagcagct accgctcttc ttggagaggt gtccccaccc agtgactctg  
1560  
gccggcatgc tggagatggg tgtctcctac ctgcctgtca accagaactg ggagcgttac  
1620  
ctggcagagg cacagggcac ttatgaggag ctccagcggg agatgaagaa gtcgttgatg  
1680  
gatctggcca atgatgcctg ccagctgctc tcaggagaga ggtacaaaga agacccttg  
1740  
ctctgggacc tggagtggga cctgcaagaa ttttaagcaga agaaagctaa gaaggatgaag  
1800  
aaggaaccag ccacagccag caagttgccc atcgaggggg ctggggcccc tggatgatccc  
1860  
atggatcagg aagacctcgg cccctgcagt gaggaggagg agtttcaaca agatgtcatg  
1920  
gcccgcgcct gcttcagaa gctgaagggg accacagagc tcctgccccaa gcggccccag  
1980  
caccttctctg gacacccttg atggtaccgg aagctctgcc cccggctaga cgaccctgca  
2040  
tggacccccg gccccagcct cctcagcctg cagatgcggg tcacacctaa actcatggca  
2100  
cttacctggg atggcttccc tctgcactac tcagagcgtc atggctgggg ctacttggtg  
2160  
cctgggcggc gggacaacct ggccaagctg ccgacaggta ccaccctgga gtcagctggg  
2220  
gtggtctgcc cctacagagc catcgagtc ctgtacagga agcactgtct cgaacagggg  
2280  
aagcagcagc tgatgcccc aaggccggc ctggcgagg agttcctgct cactgacaat  
2340  
agtgccatat ggcaaacggt agaagaactg gattacttag aagtggaggc tgaggccaag  
2400  
atggagaact tgcgagctgc agtgccagg caacccttag ctctgactgc ccgtgggtggc  
2460  
ccaaggaca cccagcccag ctatcaccat ggcaatggac cttacaacga cgtggacatc  
2520  
cctggctgct ggtttttcaa gctgcctcac aaggatggta atagctgtaa tgtgggaagc  
2580  
ccctttgcca aggacttctt gcccaagatg gaggatggca ccctgcaggc tggcccagga  
2640  
ggtgccagt ggccccgtgc tctggaaatc aacaaaatga tttctttctg gaggaacgcc  
2700  
cataaacgta tcagctccca gatggtgggt tggctgcccc ggtcagctct gccccgtgct  
2760  
gtgatcaggc acccagacta tgatgaggaa ggcctctatg gggccatcct gcccgaagt  
2820  
gtgactgccg gcaccatcac tcgccgggct gtggagcca catggctcac cgccagcaat  
2880  
gcccggcctg accgagtagg cagtgagttg aaagccatgg tgcaggcccc acctggctac  
2940

acccttgtgg gtgctgatgt ggactcccaa gagctgtgga ttgcagctgt gcttggagac  
3000  
gcccaactttg ccggcatgca tggctgcaca gcctttgggt ggatgacact gcagggcagg  
3060  
aagagcaggg gcaactgatct acacagtaag acagccacta ctgtgggcat cagccgtgag  
3120  
catgccaaaa tcttcaacta cggccgcata tatggtgctg ggcagccctt tgctgagcgc  
3180  
ttactaatgc agtttaacca ccggctcaca cagcaggagg cagctgagaa ggcccagcag  
3240  
atgtacgctg ccaccaaggg cctccgctgg tatcggctgt cggatgaggg cgagtggctg  
3300  
gtgagggagt tgaacctccc agtggacagg actgaggggtg gctggatttc cctgcaggat  
3360  
ctgcgcaagg tccagagaga aactgcaagg aagtcacagt ggaagaagtg ggaggtggtt  
3420  
gctgaacggg catggaaggg gggcacagag tcagaaatgt tcaataagct tgagagcatt  
3480  
gctacgtctg acataccacg taccctgggtg ctgggctgct gcatcagccg agccctggag  
3540  
ccctcggtg tccaggaaga gtttatgacc agccgtgtga attgggtggg acagagctct  
3600  
gctgttgact acttacacct catgcttgtg gccatgaagt ggctgtttga agagtttgcc  
3660  
atagatgggc gcttctgcat cagcatccat gacgaggttc gctacctggt gcgggaggag  
3720  
gaccgtacc gcgctgccct ggccctgcag atcaccaacc ttttgaccag gtgcatgttt  
3780  
gcctacaagc tgggtctgaa tgacttgcct cagtcagtcg cctttttcag tgcagtcgat  
3840  
atttaccggt gcctcaggaa ggaagtgacc atggattgta aaaccttcc caacccaact  
3900  
gggatggaaa ggagatacgg gattccccag ggtgaagcgc tggatattta ccagataatt  
3960  
gaactcacca aaggctcctt ggaaaaacga agccagcctg gaccatagca ctgcctggag  
4020  
gctctgtatt tgctcccggt gagcttcata ggggtggtgc aggtcccaa actcaggctt  
4080  
tcagctgtgc tttttgcaaa agggcttgcc taaggccagc catttttcag tagcaggacc  
4140  
tgccaagaag attccttcta actgaagggtg cagttgaatt cagtgggttc agaaccaaga  
4200  
tgccaacatc ggtgtggact acaggacaag gggcattggt gcttgttggg taaaaatgaa  
4260  
gcagaagccc caaagttcac attaaactcag gcatttcatt tattttttcc ttttcatctt  
4320  
ggctggttct ttgttctgtc ccccatgctc tgatgcagtg ccctagaagg ggaaagaatt  
4380  
aatgctctaa cgtgataaac ctgctccaag gcagtggaaa taaaaagaag gaaaaaaaaa  
4440  
actctaaaaa aaaaaaaaaa aaaaaaa  
4467

&lt;210&gt; 4780

&lt;211&gt; 1241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4780

```

Met Ser Arg Leu Leu Trp Arg Lys Val Ala Gly Ala Thr Val Gly Pro
 1           5           10           15
Gly Pro Val Pro Ala Pro Gly Arg Trp Val Ser Ser Ser Val Pro Ala
          20           25           30
Ser Asp Pro Ser Asp Gly Gln Arg Arg Arg Gln Gln Gln Gln Gln Gln
          35           40           45
Gln Gln Gln Gln Gln Gln Gln Gln Gln Pro Gln Gln Pro Gln Val Leu
          50           55           60
Ser Ser Glu Gly Gly Gln Leu Arg His Asn Pro Leu Asp Ile Gln Met
65           70           75           80
Leu Ser Arg Gly Leu His Glu Gln Ile Phe Gly Gln Gly Gly Glu Met
          85           90           95
Pro Gly Glu Ala Ala Val Arg Arg Ser Val Glu His Leu Gln Lys His
          100          105          110
Gly Leu Trp Gly Gln Pro Ala Val Pro Leu Pro Asp Val Glu Leu Arg
          115          120          125
Leu Pro Pro Leu Tyr Gly Asp Asn Leu Asp Gln His Phe Arg Leu Leu
          130          135          140
Ala Gln Lys Gln Ser Leu Pro Tyr Leu Glu Ala Ala Asn Leu Leu Leu
145          150          155          160
Gln Ala Gln Leu Pro Pro Lys Pro Pro Ala Trp Ala Trp Ala Glu Gly
          165          170          175
Trp Thr Arg Tyr Gly Pro Glu Gly Glu Ala Val Pro Val Ala Ile Pro
          180          185          190
Glu Glu Arg Ala Leu Val Phe Asp Val Glu Val Cys Leu Ala Glu Gly
          195          200          205
Thr Cys Pro Thr Leu Ala Val Ala Ile Ser Pro Ser Ala Trp Tyr Ser
210          215          220
Trp Cys Ser Gln Arg Leu Val Glu Glu Arg Tyr Ser Trp Thr Ser Gln
225          230          235          240
Leu Ser Pro Ala Asp Leu Ile Pro Leu Glu Val Pro Thr Gly Ala Ser
          245          250          255
Ser Pro Thr Gln Arg Asp Trp Gln Glu Gln Leu Val Val Gly His Asn
          260          265          270
Val Ser Phe Asp Arg Ala His Ile Arg Glu Gln Tyr Leu Ile Gln Gly
          275          280          285
Ser Arg Met Arg Phe Leu Asp Thr Met Ser Met His Met Ala Ile Ser
290          295          300
Gly Leu Ser Ser Phe Gln Arg Ser Leu Trp Ile Ala Ala Lys Gln Gly
305          310          315          320
Lys His Lys Val Gln Pro Pro Thr Lys Gln Gly Gln Lys Ser Gln Arg
          325          330          335
Lys Ala Arg Arg Gly Pro Ala Ile Ser Ser Trp Asp Trp Leu Asp Ile
          340          345          350
Ser Ser Val Asn Ser Leu Ala Glu Val His Arg Leu Tyr Val Gly Gly
          355          360          365
Pro Pro Leu Glu Lys Glu Pro Arg Glu Leu Phe Val Lys Gly Thr Met
          370          375          380
Lys Asp Ile Arg Glu Asn Phe Gln Asp Leu Met Gln Tyr Cys Ala Gln

```

385 390 395 400  
 Asp Val Trp Ala Thr His Glu Val Phe Gln Gln Gln Leu Pro Leu Phe  
 405 410 415  
 Leu Glu Arg Cys Pro His Pro Val Thr Leu Ala Gly Met Leu Glu Met  
 420 425 430  
 Gly Val Ser Tyr Leu Pro Val Asn Gln Asn Trp Glu Arg Tyr Leu Ala  
 435 440 445  
 Glu Ala Gln Gly Thr Tyr Glu Glu Leu Gln Arg Glu Met Lys Lys Ser  
 450 455 460  
 Leu Met Asp Leu Ala Asn Asp Ala Cys Gln Leu Leu Ser Gly Glu Arg  
 465 470 475 480  
 Tyr Lys Glu Asp Pro Trp Leu Trp Asp Leu Glu Trp Asp Leu Gln Glu  
 485 490 495  
 Phe Lys Gln Lys Lys Ala Lys Lys Val Lys Lys Glu Pro Ala Thr Ala  
 500 505 510  
 Ser Lys Leu Pro Ile Glu Gly Ala Gly Ala Pro Gly Asp Pro Met Asp  
 515 520 525  
 Gln Glu Asp Leu Gly Pro Cys Ser Glu Glu Glu Glu Phe Gln Gln Asp  
 530 535 540  
 Val Met Ala Arg Ala Cys Leu Gln Lys Leu Lys Gly Thr Thr Glu Leu  
 545 550 555 560  
 Leu Pro Lys Arg Pro Gln His Leu Pro Gly His Pro Gly Trp Tyr Arg  
 565 570 575  
 Lys Leu Cys Pro Arg Leu Asp Asp Pro Ala Trp Thr Pro Gly Pro Ser  
 580 585 590  
 Leu Leu Ser Leu Gln Met Arg Val Thr Pro Lys Leu Met Ala Leu Thr  
 595 600 605  
 Trp Asp Gly Phe Pro Leu His Tyr Ser Glu Arg His Gly Trp Gly Tyr  
 610 615 620  
 Leu Val Pro Gly Arg Arg Asp Asn Leu Ala Lys Leu Pro Thr Gly Thr  
 625 630 635 640  
 Thr Leu Glu Ser Ala Gly Val Val Cys Pro Tyr Arg Ala Ile Glu Ser  
 645 650 655  
 Leu Tyr Arg Lys His Cys Leu Glu Gln Gly Lys Gln Gln Leu Met Pro  
 660 665 670  
 Gln Glu Ala Gly Leu Ala Glu Glu Phe Leu Leu Thr Asp Asn Ser Ala  
 675 680 685  
 Ile Trp Gln Thr Val Glu Glu Leu Asp Tyr Leu Glu Val Glu Ala Glu  
 690 695 700  
 Ala Lys Met Glu Asn Leu Arg Ala Ala Val Pro Gly Gln Pro Leu Ala  
 705 710 715 720  
 Leu Thr Ala Arg Gly Gly Pro Lys Asp Thr Gln Pro Ser Tyr His His  
 725 730 735  
 Gly Asn Gly Pro Tyr Asn Asp Val Asp Ile Pro Gly Cys Trp Phe Phe  
 740 745 750  
 Lys Leu Pro His Lys Asp Gly Asn Ser Cys Asn Val Gly Ser Pro Phe  
 755 760 765  
 Ala Lys Asp Phe Leu Pro Lys Met Glu Asp Gly Thr Leu Gln Ala Gly  
 770 775 780  
 Pro Gly Gly Ala Ser Gly Pro Arg Ala Leu Glu Ile Asn Lys Met Ile  
 785 790 795 800  
 Ser Phe Trp Arg Asn Ala His Lys Arg Ile Ser Ser Gln Met Val Val  
 805 810 815  
 Trp Leu Pro Arg Ser Ala Leu Pro Arg Ala Val Ile Arg His Pro Asp



820 825 830  
 Tyr Asp Glu Gly Leu Tyr Gly Ala Ile Leu Pro Gln Val Val Thr  
 835 840 845  
 Ala Gly Thr Ile Thr Arg Arg Ala Val Glu Pro Thr Trp Leu Thr Ala  
 850 855 860  
 Ser Asn Ala Arg Pro Asp Arg Val Gly Ser Glu Leu Lys Ala Met Val  
 865 870 875 880  
 Gln Ala Pro Pro Gly Tyr Thr Leu Val Gly Ala Asp Val Asp Ser Gln  
 885 890 895  
 Glu Leu Trp Ile Ala Ala Val Leu Gly Asp Ala His Phe Ala Gly Met  
 900 905 910  
 His Gly Cys Thr Ala Phe Gly Trp Met Thr Leu Gln Gly Arg Lys Ser  
 915 920 925  
 Arg Gly Thr Asp Leu His Ser Lys Thr Ala Thr Thr Val Gly Ile Ser  
 930 935 940  
 Arg Glu His Ala Lys Ile Phe Asn Tyr Gly Arg Ile Tyr Gly Ala Gly  
 945 950 955 960  
 Gln Pro Phe Ala Glu Arg Leu Leu Met Gln Phe Asn His Arg Leu Thr  
 965 970 975  
 Gln Gln Glu Ala Ala Glu Lys Ala Gln Gln Met Tyr Ala Ala Thr Lys  
 980 985 990  
 Gly Leu Arg Trp Tyr Arg Leu Ser Asp Glu Gly Glu Trp Leu Val Arg  
 995 1000 1005  
 Glu Leu Asn Leu Pro Val Asp Arg Thr Glu Gly Gly Trp Ile Ser Leu  
 1010 1015 1020  
 Gln Asp Leu Arg Lys Val Gln Arg Glu Thr Ala Arg Lys Ser Gln Trp  
 1025 1030 1035 1040  
 Lys Lys Trp Glu Val Val Ala Glu Arg Ala Trp Lys Gly Gly Thr Glu  
 1045 1050 1055  
 Ser Glu Met Phe Asn Lys Leu Glu Ser Ile Ala Thr Ser Asp Ile Pro  
 1060 1065 1070  
 Arg Thr Pro Val Leu Gly Cys Cys Ile Ser Arg Ala Leu Glu Pro Ser  
 1075 1080 1085  
 Ala Val Gln Glu Glu Phe Met Thr Ser Arg Val Asn Trp Val Val Gln  
 1090 1095 1100  
 Ser Ser Ala Val Asp Tyr Leu His Leu Met Leu Val Ala Met Lys Trp  
 1105 1110 1115 1120  
 Leu Phe Glu Glu Phe Ala Ile Asp Gly Arg Phe Cys Ile Ser Ile His  
 1125 1130 1135  
 Asp Glu Val Arg Tyr Leu Val Arg Glu Glu Asp Arg Tyr Arg Ala Ala  
 1140 1145 1150  
 Leu Ala Leu Gln Ile Thr Asn Leu Leu Thr Arg Cys Met Phe Ala Tyr  
 1155 1160 1165  
 Lys Leu Gly Leu Asn Asp Leu Pro Gln Ser Val Ala Phe Ser Ala  
 1170 1175 1180  
 Val Asp Ile Tyr Arg Cys Leu Arg Lys Glu Val Thr Met Asp Cys Lys  
 1185 1190 1195 1200  
 Thr Pro Ser Asn Pro Thr Gly Met Glu Arg Arg Tyr Gly Ile Pro Gln  
 1205 1210 1215  
 Gly Glu Ala Leu Asp Ile Tyr Gln Ile Ile Glu Leu Thr Lys Gly Ser  
 1220 1225 1230  
 Leu Glu Lys Arg Ser Gln Pro Gly Pro  
 1235 1240

<210> 4781  
 <211> 344  
 <212> DNA  
 <213> Homo sapiens

<400> 4781  
 gaaaaagaga aaaccatggt gaacacactg tcacccagag ggcaagatgc agggatggcc  
 60  
 tctggcagga cagaggcaca atcatggaag agccaggaca caaagacgac ccaaggaaat  
 120  
 gggggccaga ccaggaagct gacggcctcc aggacggtgt cagagaagca ccagggcaaa  
 180  
 gcggcaacca cagccaagac gctcattccc aaaagtcagc acagaatgct ggctcccaca  
 240  
 ggagcagttt caacaaggac gagacagaaa ggagtgaacca cagcagtcac cccacctaag  
 300  
 gagaagaaac ctcaggccac cccaccccct gcccttttcc agag  
 344

<210> 4782  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 4782  
 Met Val Asn Thr Leu Ser Pro Arg Gly Gln Asp Ala Gly Met Ala Ser  
 1 5 10 15  
 Gly Arg Thr Glu Ala Gln Ser Trp Lys Ser Gln Asp Thr Lys Thr Thr  
 20 25 30  
 Gln Gly Asn Gly Gly Gln Thr Arg Lys Leu Thr Ala Ser Arg Thr Val  
 35 40 45  
 Ser Glu Lys His Gln Gly Lys Ala Ala Thr Thr Ala Lys Thr Leu Ile  
 50 55 60  
 Pro Lys Ser Gln His Arg Met Leu Ala Pro Thr Gly Ala Val Ser Thr  
 65 70 75 80  
 Arg Thr Arg Gln Lys Gly Val Thr Thr Ala Val Ile Pro Pro Lys Glu  
 85 90 95  
 Lys Lys Pro Gln Ala Thr Pro Pro Pro Ala Pro Phe Gln  
 100 105

<210> 4783  
 <211> 1143  
 <212> DNA  
 <213> Homo sapiens

<400> 4783  
 ngctcatcgc tggggtatgc agcgctgaag agcttaacct ccgcagctgc cgccactttc  
 60  
 ggatgtgggc atcgggcacc tggccggcat gacgcgcagc gcggcgaagg gctgcttggg  
 120  
 cctggagcag ctcacgtac aggactgcca gaagctcaca gatctttctc taaagcacat  
 180  
 ctcccagagg ctgacgggcc cgcgcctcct ccccccagcg ccgcggaggg gggaggagga  
 240

agatggagac ccacatctca tgcctgttcc cggagctgct ggccatgac ttcggctacc  
 300  
 tggacgtccg ggacaagggg cgcgcggcgc aggtgtgcac cgcctggcgg gacgccgcct  
 360  
 accacaagtc ggtgtggcgg ggggggtggag gccaaagctgc acctgcgccg ggccaacccg  
 420  
 tcgctgttcc ccagcctgca ggcccggggc atccgccggg tgcagatcct gaggcctccg  
 480  
 cgcagcctca gctacgtgat ccagggcatg gccaacatcg agagcctcaa cctcagcggc  
 540  
 tgctacaacc tcaccgacaa cgggctgggc cagcgtttg tgcaggagat cggctccctg  
 600  
 cgcgctctca acctgagcct ctgcaagcag atcactgaca gcagcctggg ccgcatagcc  
 660  
 cagtacctca agggcctgga ggtgctggag ctgggaggtt gcagcaacat caccaacact  
 720  
 ggccttctgc tcatgcctg gggctctgcag cgcctcaaga gccttaacct ccgcagctgc  
 780  
 cgccaccttt cggatgtggg catcgggcac ctggccggca tgacgcgcag cgcggcggag  
 840  
 ggctgcctgg gcctggagca gtcacgcta caggactgcc agaagctcac agatctttct  
 900  
 ctaaagcaca tctcccagg gctgacgggc ctgaggctcc tcaacctcag cttctgtggg  
 960  
 ggaatctcgg acgctggcct cctgcacctg tcgcacatgg gcagcctgcg cagcctcaac  
 1020  
 ctgcgctcct gtgacaacat cagtgcacag ggcatcatgc atctggccat gggcagcctg  
 1080  
 cgctctcgg ggctggatgt ttcgttctgt gacaaggtgg gagaccagag tctggcttac  
 1140  
 ata  
 1143

&lt;210&gt; 4784

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4784

Met	Ala	Asn	Ile	Glu	Ser	Leu	Asn	Leu	Ser	Gly	Cys	Tyr	Asn	Leu	Thr
1				5					10					15	
Asp	Asn	Gly	Leu	Gly	His	Ala	Phe	Val	Gln	Glu	Ile	Gly	Ser	Leu	Arg
		20						25					30		
Ala	Leu	Asn	Leu	Ser	Leu	Cys	Lys	Gln	Ile	Thr	Asp	Ser	Ser	Leu	Gly
		35				40					45				
Arg	Ile	Ala	Gln	Tyr	Leu	Lys	Gly	Leu	Glu	Val	Leu	Glu	Leu	Gly	Gly
	50				55				60						
Cys	Ser	Asn	Ile	Thr	Asn	Thr	Gly	Leu	Leu	Leu	Ile	Ala	Trp	Gly	Leu
65				70					75					80	
Gln	Arg	Leu	Lys	Ser	Leu	Asn	Leu	Arg	Ser	Cys	Arg	His	Leu	Ser	Asp
			85					90					95		
Val	Gly	Ile	Gly	His	Leu	Ala	Gly	Met	Thr	Arg	Ser	Ala	Ala	Glu	Gly
		100					105					110			
Cys	Leu	Gly	Leu	Glu	Gln	Leu	Thr	Leu	Gln	Asp	Cys	Gln	Lys	Leu	Thr

115 120 125  
 Asp Leu Ser Leu Lys His Ile Ser Arg Gly Leu Thr Gly Leu Arg Leu  
 130 135 140  
 Leu Asn Leu Ser Phe Cys Gly Gly Ile Ser Asp Ala Gly Leu Leu His  
 145 150 155 160  
 Leu Ser His Met Gly Ser Leu Arg Ser Leu Asn Leu Arg Ser Cys Asp  
 165 170 175  
 Asn Ile Ser Asp Thr Gly Ile Met His Leu Ala Met Gly Ser Leu Arg  
 180 185 190  
 Leu Ser Gly Leu Asp Val Ser Phe Cys Asp Lys Val Gly Asp Gln Ser  
 195 200 205  
 Leu Ala Tyr Ile  
 210

<210> 4785

<211> 3289

<212> DNA

<213> Homo sapiens

<400> 4785

nntttttttt tcagttttta tttattttta tttgattttt ttttccttaa gaatcatagt  
 60  
 aaaccttagc agtagttggg cactgcatga aaaatgaagt ttacatagtt tatattatgt  
 120  
 acataaacta gtgatttaca ttgatttaca catgattggg gcctaattta ttaatcagca  
 180  
 cgcagcatgt aaatgtgctc aaaagaaatc aagggtttaa ataagttttc cataatattc  
 240  
 ataaacattt tcgctgggtg aaatgtttaa cctaaaccca acgttaacac cagcttcctt  
 300  
 gccaagagaa aagtgagatg tacatgctgg gtgaaaacaa attctttcct aaattttggg  
 360  
 tggcgacatt tgaacagcat agctacatgc aaatgagaat agtttacttc ttttctgcta  
 420  
 gtatgcacat aaatgtaaac tccattttgc atttagtgag atgtttacag atattatgcc  
 480  
 aaccatgatg gaaaatttac atcactgagg caaatgcagt ctttgagaaa gaaatattct  
 540  
 aaacatttaa gcaaggagga ggcttcctaa actgtatttt tgtttcttat ctcaccattt  
 600  
 tttttttcca ggtctgcaga gcattttatc cgtcccagtg gggaggggca gggatccagg  
 660  
 tggccggagg gcacagggcc tacgtgtacc acatgaagcc gtggctggca tggagagcct  
 720  
 cctctgtggg gcgcagcccg tacagctccc cgatcaaggg gggcaccag cgggttgtgt  
 780  
 ggaacacaga ctccccacc ttccagtcgg gcacgtcctt catgatgatg gcctcctcct  
 840  
 ccaggttttc ccgaagcatc tgcaaggctc tccggtcggg ttctgcctgt aacagtggca  
 900  
 acagcgcgat gcgagcctcg aagtcctcga tttgtaggag cctgcgctca cggttccact  
 960  
 tcattatgct ccagtgcccg tagatcaggg ttccaatccc tatggccagc atgctgtagc  
 1020

ccgacagtcc tcgacgcggc aagttccgtt tgtagtcgat ggggcccata gccccccggc  
1080  
ggaggcatgt cctgcttcac ctttgacgcc ggtcctggcc ttgtctgtgg agacggatta  
1140  
caccttccca cttgctgaaa aggtcaaggc cttcttggct gatccatctg cttttgtgct  
1200  
gctgccccgt tgctgctgcc accacagctg ctcgctctgc tgctgcagcc ccagctaagg  
1260  
ttgaagccaa ggaagagtcg gaggagtgg ttgctttttg gtgattagtc aaagagacca  
1320  
aatcccatat cctcgtccga ctctccgac tcttccttgg cttcaacctt agctggggct  
1380  
gcagcagcag caggagcagc tgtggtggca gcagccacag gggcagcagc cacaaaggca  
1440  
gatggatcag ccaagaaggc cttgaccttt tcagcaagtg ggaaggtgta atccgtctcc  
1500  
acagacaagg ccaggactcg tttgtacctg ttgatgatag aatggggtac tgatgcaaca  
1560  
gttgggtagc caatctgcag acagacactg gcaacattgc ggacaccag gatttcaatg  
1620  
gtgccccctg agattttagt ggtgatacct aaagcctgga aaaaggaggt cttctcgggc  
1680  
ccgagaccag tgttctgggc tggcacagtg acttcacatg gggcaatggc accagcacgg  
1740  
gcagcagctg gcaccttatt ggccagcaac atgtccctga tctcagttag gtcctccttg  
1800  
gtgaacacaa agccacatt cccccggata tgaggcagca gtttctccag agctgggttg  
1860  
ttttccaggt gccctcggat ggccttgccg atcatgggtg tcttgcccat cagcacacag  
1920  
ccttcccgcg aaggacatg cggatctgct gcactctgct ggagcccaca ttgtctgctc  
1980  
cctcaatgaa acatttcgga taatcatcca atagttggat gatcttaagg aagtagttgc  
2040  
tctgccagg cgtcctcgtg gaagtgcacat cgtctttaaa ccctgcgtgg caatccctga  
2100  
cgcaccgccg tgatgccag ggaagacagg gcgacctgga agtccaacta cttccttaag  
2160  
atcatcgtaa gtgcacaact attggatgat tatccgaaat gtttcattgt gggagcagac  
2220  
aatgtgggct ccaagcagat gcagcagatc cgcagtctcc ttcgcgggaa ggctgtgggtg  
2280  
ctgatgggca agaaccacat gatgcgcaag gccatccgag ggcacctgga aaacaacca  
2340  
gctctggaga aactgctgcc tcatatccgg gggaatgtgg gctttgtgtt caccaaggag  
2400  
gacctcactg agatcaggga catgttgctg gccataaagg tgccagctgc tgcccgtgct  
2460  
ggtgccattg ccccatgtga agtcaactgt ccagcccaga aactggtct cgggcccag  
2520  
aagacctcct tttccaggc tttaggtatc accactaaaa tctccagggg caccattgaa  
2580  
atcctgagtg atgtgcagct gatcaagact ggagacaaag tgggagccag cgaagccacg  
2640

ctgctgaaca tgctcaacat ctcccccttc tcctttgggc tggatcatcca gcaggtgttc  
 2700  
 gacaatggca gcatctacaa ccctgaagtg cttgatatca cagaggaaac tctgcattct  
 2760  
 cgcttcctgg aggggtgtccg caatgttgcc agtgtctgtc tgcagattgg ctacccaact  
 2820  
 gttgcatcag tacccttctc tatcatcaac gggatcaaac gagtcctggc cttgtctgtg  
 2880  
 gagacggatt acaccttccc acttgctgaa aaggtcaagg ccttcttggc tgatccatct  
 2940  
 gcctttgtgg ctgctgcccc tgtgggtgct gccaccacag ctgctcctgc tgcgtgtgct  
 3000  
 gctgcagccc cagctaaggt tgaagccaag gaagagtcgg aggagtcgga cgaggatatg  
 3060  
 ggatttggtc tctttgacta atcaccaaaa agcaaccaac ttagccagtt ttatttgcaa  
 3120  
 aacagacact ggcaacattg cggacaccct ccaggaagcg agaatgcaga gtttcctctg  
 3180  
 tgatatcaag cacttcaggg ttgtagatgc tgccattgtc gaacacctgc tggatgacca  
 3240  
 gcccaaagga gaagggggag atgttgagca tgttcagcag gcgtgcgtt  
 3289

<210> 4786

<211> 322

<212> PRT

<213> Homo sapiens

<400> 4786

Met	Pro	Arg	Glu	Asp	Arg	Ala	Thr	Trp	Lys	Ser	Asn	Tyr	Phe	Leu	Lys
1				5					10					15	
Ile	Ile	Val	Ser	Ala	Gln	Leu	Leu	Asp	Asp	Tyr	Pro	Lys	Cys	Phe	Ile
		20						25					30		
Val	Gly	Ala	Asp	Asn	Val	Gly	Ser	Lys	Gln	Met	Gln	Gln	Ile	Arg	Met
	35						40					45			
Ser	Leu	Arg	Gly	Lys	Ala	Val	Val	Leu	Met	Gly	Lys	Asn	Thr	Met	Met
	50					55					60				
Arg	Lys	Ala	Ile	Arg	Gly	His	Leu	Glu	Asn	Asn	Pro	Ala	Leu	Glu	Lys
65				70					75					80	
Leu	Leu	Pro	His	Ile	Arg	Gly	Asn	Val	Gly	Phe	Val	Phe	Thr	Lys	Glu
			85					90					95		
Asp	Leu	Thr	Glu	Ile	Arg	Asp	Met	Leu	Leu	Ala	Asn	Lys	Val	Pro	Ala
	100							105					110		
Ala	Ala	Arg	Ala	Gly	Ala	Ile	Ala	Pro	Cys	Glu	Val	Thr	Val	Pro	Ala
	115						120					125			
Gln	Asn	Thr	Gly	Leu	Gly	Pro	Glu	Lys	Thr	Ser	Phe	Phe	Gln	Ala	Leu
	130					135					140				
Gly	Ile	Thr	Thr	Lys	Ile	Ser	Arg	Gly	Thr	Ile	Glu	Ile	Leu	Ser	Asp
145				150					155				160		
Val	Gln	Leu	Ile	Lys	Thr	Gly	Asp	Lys	Val	Gly	Ala	Ser	Glu	Ala	Thr
			165					170					175		
Leu	Leu	Asn	Met	Leu	Asn	Ile	Ser	Pro	Phe	Ser	Phe	Gly	Leu	Val	Ile
		180						185					190		
Gln	Gln	Val	Phe	Asp	Asn	Gly	Ser	Ile	Tyr	Asn	Pro	Glu	Val	Leu	Asp

[illegible]

```
<210> 4787
<211> 1258
<212> DNA
<213> Homo sapiens
```

```

<400> 4787
nctagaccct cttctctccc ttcggcttct ctctttcggc cggcgcccca gttcctgggg
60
cacaccaga ggtccccttc tcgccgcgcg ctgcaactgc gagggtagcc cggggccgct
120
tggagtcgcc cggacctgag aggctgctgc actgggcctc agccagccct ccggatgctg
180
gtgctgccat cccctgccc tcagcctctg gcattttcct ccgttgagac catggagggc
240
cctccccgtc ggacttgccg ctccccagaa cctggacctt cctcctccat cggatctccc
300
caggcttcat ctctccaag gcccaaccac tacctgctta ttgacactca ggggtgtccc
360
tacacagtgc tgggtggacga ggagtcacag agggagccag gggccagtgg ggctccaggc
420
cagaaaaagt gctacagctg ccccgctgtc tcaagggtct tcgagtacat gtectacctt
480
cagcgacaca gcatcaccca ctcggaggta aagcccttcg agtgtgacat ctgtgggaag
540
gcattcaagc gcgccagcca cttggcacgg caccattcca ttcacctggc ggggtggtggg
600
cggccccacg gctgcccgtc ctgccctcgc cgcttcgggg atgcgggtga gctggcccag
660
cacagccggg tgcactctgg ggaacgcccg tttcagtgtc cacactgcc tgcgcgcttt
720
atggagcaga acacactgca gaaacacacg cggtggaagc atccatgagc cgggctgccg
780
ggtgccccag gtaccacagg actttgcagg gagcctggac tcctgtccag acacctggtg
840
agagcctgag gctggtgttc agggccctgg acacagacac agagcagccg catctcaaag
900

```

gcagagccct gcctgaagga ggaatccgtg agtaatcttc aggtcctccg tgttctggag  
 960  
 ctgagatggg aatgagcccc tacacagaat ggagtcctct agcctaaaga tatcagctgt  
 1020  
 tccatggcag agccttgact ggatggaggt ggggagtgtg gtgtgtaaag tctctggcct  
 1080  
 cataaaagggt ggctgtgggt cgtcaggaat ctgcgccatc ttctgggggc ttctgcgctg  
 1140  
 ttgttgggga agggacccca gtcctgcctt ccacccccca accaggcctg agactgatca  
 1200  
 aacaataaac acgtttccca ctctgaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1258

&lt;210&gt; 4788

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4788

Met	Leu	Val	Leu	Pro	Ser	Pro	Cys	Pro	Gln	Pro	Leu	Ala	Phe	Ser	Ser
1				5					10					15	
Val	Glu	Thr	Met	Glu	Gly	Pro	Pro	Arg	Arg	Thr	Cys	Arg	Ser	Pro	Glu
			20					25					30		
Pro	Gly	Pro	Ser	Ser	Ser	Ile	Gly	Ser	Pro	Gln	Ala	Ser	Ser	Pro	Pro
			35				40					45			
Arg	Pro	Asn	His	Tyr	Leu	Leu	Ile	Asp	Thr	Gln	Gly	Val	Pro	Tyr	Thr
						55					60				
Val	Leu	Val	Asp	Glu	Glu	Ser	Gln	Arg	Glu	Pro	Gly	Ala	Ser	Gly	Ala
65						70				75					80
Pro	Gly	Gln	Lys	Lys	Cys	Tyr	Ser	Cys	Pro	Val	Cys	Ser	Arg	Val	Phe
				85					90					95	
Glu	Tyr	Met	Ser	Tyr	Leu	Gln	Arg	His	Ser	Ile	Thr	His	Ser	Glu	Val
			100					105					110		
Lys	Pro	Phe	Glu	Cys	Asp	Ile	Cys	Gly	Lys	Ala	Phe	Lys	Arg	Ala	Ser
		115					120					125			
His	Leu	Ala	Arg	His	His	Ser	Ile	His	Leu	Ala	Gly	Gly	Gly	Arg	Pro
	130					135					140				
His	Gly	Cys	Pro	Leu	Cys	Pro	Arg	Arg	Phe	Arg	Asp	Ala	Gly	Glu	Leu
145					150					155					160
Ala	Gln	His	Ser	Arg	Val	His	Ser	Gly	Glu	Arg	Pro	Phe	Gln	Cys	Pro
				165					170					175	
His	Cys	Pro	Arg	Arg	Phe	Met	Glu	Gln	Asn	Thr	Leu	Gln	Lys	His	Thr
			180					185					190		
Arg	Trp	Lys	His	Pro											
			195												

&lt;210&gt; 4789

&lt;211&gt; 1515

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4789

nnggttctgc aagccacaca tggcctcact gcattgtttt cttctttttt aacaatcctt  
 60



ttaaaaaatg tagaaaccct tttcagttca aaggccacac caaagcaggt caggtagatc  
120  
tgggtccacag gccatagata gccaatccct gtcccagagg gtggagctgt gagacttgtc  
180  
ggggtgagac ctgttagagg ctggatgggg caattgcttg gggaatgtgt gcagatgttc  
240  
tctgcctcct gtccttcta gatgattttt ggcgacctga tgcgattctg ctggctgatg  
300  
gctgtgggtca tcctgggctt tgcttcagcc ttctatatca tcttccagac agaggacccc  
360  
gaggagctag gccacttcta cgactacccc atggccctgt tcagcacctt cgagctgttc  
420  
cttaccatca tcgatggccc agccaactac aacgtggacc tgcccttcat gtacagcatc  
480  
acctatgctg cctttgccat catcgccaca ctgctcatgc tcaacctcct cattgccatg  
540  
atgggcgaca ctactggcg agtggcccat gagcgggatg agctgtggag ggcccagatt  
600  
gtggccacca cggatgatgt ggagcggaag ctgcctcgct gcctgtggcc tcgctccggg  
660  
atctgaggac gggagtatgg cctgggagac cgctgggtcc tgcgggtgga agacaggcaa  
720  
gatctcaacc ggcagcggat ccaacgctac gcacaggcct tccacaccg gggctctgag  
780  
gatttggaca aagactcagt ggaaaaacta gagctgggct gtcccttcag cccccacctg  
840  
tcccttccta tgccctcagt gtctcgaagt acctcccgca gcagtgccaa ttgggaaagg  
900  
cttcggcaag ggaccctgag gagagacctg cgtgggataa tcaacagggg tctggaggac  
960  
ggggagagct gggaatatca gatctgactg cgtgtttctca cttcgcttcc tggaacttgc  
1020  
tctcattttc ctgggtgcat caaacaaaac aaaaaccaa caccagagg tctcatctcc  
1080  
caggccccag gggagaaaga ggagtagcat gaacgccaag gaatgtacgt tgagaatcac  
1140  
tgctccaggc ctgcattact ccttcagctc tggggcagag gaagcccagc ccaagcacgg  
1200  
ggctggcagg gcgtgaggaa ctctcctgtg gcctgctcat cacccttcg acaggagcac  
1260  
tgcattgtcag agcactttaa aaacaggcca gcctgcttgg gcgctcggtc tccaccccag  
1320  
ggtcataagt ggggagagag cccttcccag ggcacccagg caggtgcagg gaagtgcaga  
1380  
gcttgtggaa agcgtgtgag tgaggagac aggaacggct ctgggggtgg gaagtggggc  
1440  
taggtcttgc caactccatc ttcaataaag tegttttcgg atccctaaaa aaaaaaaaaa  
1500  
aaaaaaaaaa aaccc  
1515

&lt;210&gt; 4790

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4790

```

Met Ile Phe Gly Asp Leu Met Arg Phe Cys Trp Leu Met Ala Val Val
 1           5           10           15
Ile Leu Gly Phe Ala Ser Ala Phe Tyr Ile Ile Phe Gln Thr Glu Asp
      20           25           30
Pro Glu Glu Leu Gly His Phe Tyr Asp Tyr Pro Met Ala Leu Phe Ser
      35           40           45
Thr Phe Glu Leu Phe Leu Thr Ile Ile Asp Gly Pro Ala Asn Tyr Asn
      50           55           60
Val Asp Leu Pro Phe Met Tyr Ser Ile Thr Tyr Ala Ala Phe Ala Ile
65           70           75           80
Ile Ala Thr Leu Leu Met Leu Asn Leu Leu Ile Ala Met Met Gly Asp
      85           90           95
Thr His Trp Arg Val Ala His Glu Arg Asp Glu Leu Trp Arg Ala Gln
      100          105          110
Ile Val Ala Thr Thr Val Met Leu Glu Arg Lys Leu Pro Arg Cys Leu
      115          120          125
Trp Pro Arg Ser Gly Ile Cys Gly Arg Glu Tyr Gly Leu Gly Asp Arg
      130          135          140
Trp Phe Leu Arg Val Glu Asp Arg Gln Asp Leu Asn Arg Gln Arg Ile
145          150          155          160
Gln Arg Tyr Ala Gln Ala Phe His Thr Arg Gly Ser Glu Asp Leu Asp
      165          170          175
Lys Asp Ser Val Glu Lys Leu Glu Leu Gly Cys Pro Phe Ser Pro His
      180          185          190
Leu Ser Leu Pro Met Pro Ser Val Ser Arg Ser Thr Ser Arg Ser Ser
      195          200          205
Ala Asn Trp Glu Arg Leu Arg Gln Gly Thr Leu Arg Arg Asp Leu Arg
      210          215          220
Gly Ile Ile Asn Arg Gly Leu Glu Asp Gly Glu Ser Trp Glu Tyr Gln
225          230          235          240
Ile

```

&lt;210&gt; 4791

&lt;211&gt; 4481

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4791

```

nntgtacact aaccatgata ctgttacaaa agcagacact taagccaatg gaacagaata
60
gaacactcaa aaataaagct gcacacttac caccatctga tcgtggacaa ggccaacaaa
120
aacaacaat ggggaaaagg caccctattc aataaatggt gctgggataa ttcgctagcc
180
atatgcagaa tagtgaaact ggaccctat ccttcacgat atacaaaaat caactcaaga
240
tggattaaag acttaaatat aaaacctaaa agtattaaat tcctagaaga caaccagga
300
aatgccattc tggacataag tgctggaaaa gacttaatga tgaacaccnc caaagcaatt
360

```

acaacaaaaa caaaaattga caagtgggac ctaattaaac taaataactt ctgcacagca  
420  
aaagaaacta tcaacagagt agacagacaa cctacagaat gggagaaagt actggcatgg  
480  
gagaaaatat tttaaacta tgcattctgac aaaggtctaa tatccagcat ctataaggaa  
540  
cttaaacaaa ttactaggg aaaaacagac aatcccatta aaaagtgggc aaaggacatg  
600  
aacagacact tctcaaaaga agacatacaa gcaatcaaca aanncgtgaa aaaatgctca  
660  
tcactaatca tcagagaaat gcaaatcaaa accacaataa tataccatct cacaccagtc  
720  
agtatgggta ttacaaaaa gtcaaaaatt acacaatatg aaaagtcact atattatgcc  
780  
agttttttgg aagtcttagt tcgagatgtg tgtatttcat tggaaattga tgacttgaaa  
840  
aaaattacca attcactgac tgtgctttgc agtgaaaaac agaagcaaga aaagcaaagc  
900  
aaagccaaaa agaagaagaa aggtgtgggt cctggagggg gattaaaagc caccatgaaa  
960  
gatgatctgg cagattatgg tggttatgat ggaggatatg tacaagacta tgaagacttc  
1020  
atgtgacatt ttatcttttc ttggtgtcat ctttatgttg cccacaatcc cttgaacatg  
1080  
tagcacaact tcctttcctt tcagttctgc caaatgtac aatcagaagt gcagtatctt  
1140  
ttgtgctggg tatttaaccc cttgacactt aggtgctaata gtgcaaatga ggggaacttg  
1200  
atcttgctgc caaggggtta aaattgggaa cctaagttgc tactaaatca tagttcaaaa  
1260  
cctaataatg ttgtcgttgt tgctatctga ttcatagca gcagtcacta aattggaaac  
1320  
aaaaggttgc aacgtgacaa aaaaaattgt gtagtattta ccagcaccat tcagtaatac  
1380  
agccttaacc atacctcctt gaactacttc ataacttgct aagaaaagca gtttgcagca  
1440  
aggcatgtg gtgtgcacct agtattaaaa ttgctttgtc ttaaaattga acatgaggat  
1500  
attaaaaata cattgtgaag aagactgctt atctcagagt gaagatactg cggctgaaaa  
1560  
gcactagttt gatataaaat taaaatgacc aaaaccctcc aactttgaag cttaaagaagg  
1620  
taaacccttc cattattgca ttacatgttg tggaatctct cgagtgcata gactgtctag  
1680  
ttatttatca ggctatttct actgatgaac tgcttcaggt gggggaggga aacttatttt  
1740  
tatttgctg atttaagtgt ctgagaaaca aatctttgtt ctcttaggct gcaatggaac  
1800  
aactttacca gggttttggc atttccttcc ctttccttta taaaacatgc tcagcaaact  
1860  
gcaccagtta actacagttt ggtaaatgtt tatgttaaca attatgacat ctgcaatgtt  
1920  
ttataagca actaatttaa taaaatcact gttgtgagga cttaaatttt gtgttacctc  
1980

ccaagagata ctttttgaga gtatagaaca cagctcttgg gagtacagtt ctctacgttc  
2040  
tctactaaat cttaataaat gcttgacata gttacagctt taaaacatga gtgatttgcc  
2100  
aggtccttat gttgtcacca tagagcaaca aaggatatagg gctgccttcc tcttatttat  
2160  
ttggggacat tattttgtta ttagatacc aaggcctaata taattaagta cctataagaa  
2220  
ctatttattt ggagtaactg agcctgtaac tcaggtttat ggctgttaag tatagattgg  
2280  
ggaatcttta ttatgtcttc tcctaagcag ttttaacaaa tgtgtgggta gtgtttttt  
2340  
attcccctaa gacagaaaga acaaaaaatg ttttaaattt ctcttatata ggaaataata  
2400  
ggaacgtcaa agctctgtat acctactaag tggaaaacaa gaccatcatc taagtgattt  
2460  
gagaaattaa caaaagtagt gactacacag caataattac agtaaattaa ataaagattc  
2520  
ctttaaggca gacaagggtc aagatttcct tagcagtaat aatgacatac actgaattga  
2580  
aatctattt tattacagaa agatcagttt ctaacaaatg aaaatgtatc acctgttcct  
2640  
taactgtgta aataataatt aaatttcttt gaaactggaa tctgcaggta caggatttct  
2700  
ttaatcatta ttggatcatc taaagtagaa gctgtcctga ggaagaggaa gcttttgatc  
2760  
ttaatactag tatctatata aaatggtgtg gatgaacaat catctaaaat caatctattt  
2820  
taaataggaa tttcctcctg aaaagtttct tacttgctac ctactacca caaaggactg  
2880  
atatggtaca gtaccgggat tgttcaactt tagcaaagat ctccaatgca ttcttcttct  
2940  
catcacatct gtcagaatct gctaacagta caagaaaaca gacacctatg aaatcatcta  
3000  
acctgctagc atgtccttta gacagcaacc tgtctgaggg tccttcagaa gcacatttac  
3060  
aatttcataa aacttggtgtt cgtatgccaa cttgtaatac aggtaaacat cttcacaata  
3120  
tgtgagtaat ttcttcaggt tttccatgac catgtcagta ggctgatggt gtttatattt  
3180  
tttgaaaatc tcttcaaata tactggactt taataacctt tgcgtcttaa attcttccaa  
3240  
gtaattaaag tctcctttta gaatcacttg ctggtacaaa atttcagccc aatctggaac  
3300  
aaaatcgtag gccctcagcc acaatagaag cctggtagaa ccgaggtagg gccagaatac  
3360  
agtccatcag cttgtggcgg cccaagttga tgagcattgt gttctggcca gtgttcagaa  
3420  
agtgaatctg cagagttatc aacttggtga gccgctgaca gtgctgggcc tgtcgcacac  
3480  
aggagtcctt ggcataactc tctgctgcat ccaacatcag agtcagggcc ttcagcagca  
3540  
gttgtttcag ctggtgccca tccttgaggc tgtcctccca gggctgagac tcaatcaatt  
3600

tcagttggat gcgggcagct gcctcgtggt tctcgccaat ctcccggcac atgctgaagc  
 3660  
 acagggcaat catattgtgc ttttcactgt ctccaggacg gcagcgtttg atgtagtcca  
 3720  
 gcagggtgt tttcagggtta ccactcggat ccaacttctt cctcattagc acttcaaagt  
 3780  
 agtgcttttt atgcagcaaa tcaaatatgt atgtcatctc gttgtacctt ccaatgccag  
 3840  
 tgaggagccg taccaccagc ccatactcct cactgggggc caggtgggta tctgtgagca  
 3900  
 tgtgggcggc ctgtaggact cggatgatgc cctccatgtg gcacgtcagg gtgaagcaat  
 3960  
 gatgggcccag gatcaggagc tctgtgggtgc aagacagttc cccatgggga acggaggaaa  
 4020  
 tcttatccaa caacttcatt cctaccaatg tgcggtcttg acacagagtg gtcagctgaa  
 4080  
 gaaatgtctg gctttctctt gttgggttga acatctgctt atgtcctgtt ccctgtgatg  
 4140  
 aagtaagcag ctcccgtgtc acctcttctg ccacgagttc agccacagta tctggcttaa  
 4200  
 ggccctgtgt gctgatgaag gcctgggctc gtttgcacgc gtcaggctgc tgagaggcca  
 4260  
 agattttccg gagcatggct tcaccatcct gagcagcaac atctgtgtag gaacagccca  
 4320  
 actccttggc aagatcatac agacagagga cctgtcgaca gtagttcttc ccatggaggc  
 4380  
 atttgcttgt cagcacttcc aggttagtta ccacttcatt actggtgaag cacgtatggg  
 4440  
 ccaggatcag gagctctgtg gtgcaagaaa gttcccatg g  
 4481

&lt;210&gt; 4792

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4792

Tyr	Cys	Tyr	Lys	Ser	Arg	His	Leu	Ser	Gln	Trp	Asn	Arg	Ile	Glu	His
1				5					10					15	
Ser	Lys	Ile	Lys	Leu	His	Thr	Tyr	His	His	Leu	Ile	Val	Asp	Lys	Ala
			20					25					30		
Asn	Lys	Asn	Lys	Gln	Trp	Gly	Lys	Gly	Thr	Leu	Phe	Asn	Lys	Trp	Cys
		35				40						45			
Trp	Asp	Asn	Ser	Leu	Ala	Ile	Cys	Arg	Ile	Val	Lys	Leu	Asp	Pro	Tyr
	50					55				60					
Pro	Ser	Arg	Tyr	Thr	Lys	Ile	Asn	Ser	Arg	Trp	Ile	Lys	Asp	Leu	Asn
65				70					75					80	
Ile	Lys	Pro	Lys	Ser	Ile	Lys	Phe	Leu	Glu	Asp	Asn	Pro	Gly	Asn	Ala
				85				90						95	
Ile	Leu	Asp	Ile	Ser	Ala	Gly	Lys	Asp	Leu	Met	Met	Asn	Thr	Xaa	Lys
		100					105						110		
Ala	Ile	Thr	Thr	Lys	Thr	Lys	Ile	Asp	Lys	Trp	Asp	Leu	Ile	Lys	Leu
		115					120					125			
Asn	Asn	Phe	Cys	Thr	Ala	Lys	Glu	Thr	Ile	Asn	Arg	Val	Asp	Arg	Gln

130		135		140	
Pro Thr Glu Trp Glu Lys Val Leu Ala Trp Glu Lys Ile Phe Ser Asn					
145		150		155	160
Tyr Ala Ser Asp Lys Gly Leu Ile Ser Ser Ile Tyr Lys Glu Leu Lys					
	165		170		175
Gln Ile Tyr					

<210> 4793  
 <211> 1242  
 <212> DNA  
 <213> Homo sapiens

<400> 4793  
 caattgcaat taaacatgga cagaaaatcc tcctccccgt tgttcttaga acaagaataa  
 60  
 caatgaagtt aaaagccacc tgggaaggcc cctcctcacc cttgggtctct caaattccat  
 120  
 tttttagtcc tcctgaaggc ccacagcacc actgctgtca gccagcctct tggcaggttg  
 180  
 ataggtgact tcatttggtta ccaacaacac agatgctttc caacatcata acaacctcac  
 240  
 agatgccctt tttaatatct gcgtatgtta cgttatagag ctgtaccatg agttagtgtc  
 300  
 tattttcgtc catttacatt gctataaagg attacctgag gctgggtaat taaagaggtt  
 360  
 tacttggtc acggctctgc aggctgtaca agcagcacgg tgccagcgtc tgcttctggt  
 420  
 gagggcctca ggctacttcc agcatggcag aaggcgaagg agagctagcg tgtgcagaga  
 480  
 tcacatggca acagaggaag aaggcagagg tgctctttaa caaccagttc ttccgagaga  
 540  
 gttccacgtg gctggaactt cacaatcatg gcagaaggca cgtctgcgag gcatcctggg  
 600  
 gctgcactgc tgatectctt ctctctcccc tggccctgag tgctgecttc atgtggctca  
 660  
 gcccttccgt ccttcaagcc ttcatcagct tcagggcagc cccgagtctg tgcccaggta  
 720  
 cactggctaa aatgcagtgt cttccaaata gccatatctc attttaatca gggagcaatt  
 780  
 ccagcatgga agtccccatc atgetcctgc tggcaggtac aggtgccagt ttgtgacgga  
 840  
 tgaaagcacc gacagcccac gcgtcttcat catggaggcc tgtgccccag actgtgccca  
 900  
 gcacaacagc tgggcggcaa ggggtggcca gggtcgagca aatgacacgt tccctttggc  
 960  
 taaggaagac accccagaag caaatgctc catgcaacag ccaggcattc aggctacaag  
 1020  
 ctcggtggcg gggaggcagc cgggagcctt ctcagaggag aagggtcccg tgatcattcc  
 1080  
 acagatgctt ttagagctct gggctcaggg taaccgacca attatgggtgc tgccagaggg  
 1140  
 cctgcattta ctatacacac gtcacaaaat caggcttccc cgggaggagc catcggactc  
 1200

tgtgcagagg gcccatgtga caatataaaa ggtcgacgcg gc  
1242

<210> 4794

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4794

Met	Glu	Ala	Cys	Ala	Pro	Asp	Cys	Ala	Gln	His	Asn	Ser	Trp	Ala	Ala
1			5					10						15	
Arg	Val	Gly	Gln	Gly	Arg	Ala	Asn	Asp	Thr	Phe	Pro	Leu	Ala	Lys	Glu
		20					25					30			
Asp	Thr	Pro	Glu	Ala	Lys	Cys	Ser	Met	Gln	Gln	Pro	Gly	Ile	Gln	Ala
		35				40					45				
Thr	Ser	Ser	Val	Ala	Gly	Arg	Gln	Pro	Gly	Ala	Phe	Ser	Glu	Glu	Lys
	50				55					60					
Gly	Pro	Val	Ile	Ile	Pro	Gln	Met	Leu	Leu	Glu	Leu	Trp	Ala	Gln	Gly
65				70				75						80	
Asn	Arg	Pro	Ile	Met	Val	Leu	Pro	Glu	Gly	Leu	His	Leu	Leu	Tyr	Thr
			85					90						95	
Arg	His	Lys	Ile	Arg	Leu	Pro	Arg	Glu	Glu	Pro	Ser	Asp	Ser	Val	Gln
		100						105						110	
Arg	Ala	His	Val	Thr	Ile										
		115													

<210> 4795

<211> 2117

<212> DNA

<213> Homo sapiens

<400> 4795

nnattgtttt cctgatttca ttaagttgtc tatttatatt ccttttatatc tcaactgagtc  
60  
tccttaagat cattatgtgg aattctcttt cagaaaactc atacattttc atttatttgg  
120  
ggtcagttag cagagaatta ttgttttccc ttggtagtat cacttttctt tgctttttct  
180  
tatttcttgt gtccctgcat aggtgtctcc acatctgggt gtataatcgg ctctctcaaa  
240  
ctttatagag tggctttcag aggggaagat tttcatctgc agatgggcct ggggcttttg  
300  
gttgagcagg ctctggtggc tttcatttca tgtgggtcca ggccctccgg cagcagtga  
360  
ttgagagccc aggctgcac ggcccacagt gcaggggtcc cggggtctc catccccact  
420  
tccagttggc taccctgat gaaggggcca cctgaggtgg ctgagagtaa tatccagacc  
480  
cagccagtga acagggagat ggatgctgcc ggctttgact tctactgcc atgcactcaa  
540  
aagctaacac agaatggcac aaggagtcag tggggcctct ccctgccagc tctcatgacc  
600  
gagggcagtg taaaacatgg tttaggagat gtttctatcc tcaagaagac attcagcacc  
660

aggccttcaga actcagattg gtttctcacc actttgaaag actgcatgac tcttcaccca  
 720  
 cttagaggcat cacctcccca ggacaaacag ccctccatca tgaaggacca acattgcatg  
 780  
 aactggtgct tggccccacc agagggaaat gcaaacgtgg catttagccc atatggcttt  
 840  
 cttgcatggg gtcactacat cagtgccatg gacccctgca ccctcttacc cttggcgggt  
 900  
 ccacatgccc agggccccca ggggtgtggcc ccaaaagtga caaccagagg attgggacca  
 960  
 gcaggagcat cactgtggac agtctatgag gacagtaaga gacagggcct gtccttgag  
 1020  
 attgtacagg gcttgcaagg acaggctggt cctgagagca tcagccctgt cgtgactgta  
 1080  
 ccccaaagag gcatcaggcc ctttggaag ttggacagga acaccagaat ggccagcctt  
 1140  
 gactgcaagt ccctggagtg gcagccctg gcaatacttc tggaacagaa aaacatggca  
 1200  
 gcagacgggc ccgtgctcaa ttcaccagag cccaagccag cccaaggcag ctgcttctctg  
 1260  
 ctacagagag tcgcttcaga agtgctttgt gctacagtcc ctgcccgtgg catccagggc  
 1320  
 tggccagagc ccaagccctc cccaggetca gagctctcag ccctcaaagc acacgaagtc  
 1380  
 ttacaaatca tgctgggctt acccactgag gacatgctgg tgagaaagca ggcaccacag  
 1440  
 cccctgttcc ttctgatgg tcatgtgcag ctgtgctcca aaggacagca gaggttgga  
 1500  
 cagagggcgt gtcggaggag atccaggagc aacactcaac agaggaacac tgatatgtct  
 1560  
 ccatacccc agcgcccgag ccagggcctg gtgtggagca gagcagaccc caccacgggt  
 1620  
 acagacagcg atgcagacat aacactacaa gcatatccat caggagtcaa gtcatggggc  
 1680  
 tgtccccagg aaatcagctc attagtgtgg ctgaccaagg ccatgctggc ccttagaggt  
 1740  
 ggctgctcca gctccagcag cgactctatg ggcaggaaag cctgggttct gttcaacca  
 1800  
 cagcagacca cactcaggtg ggccctgtaa gtgagccctt tcttccaaaa tggccactgg  
 1860  
 atccaatttc tctcactggg aatcaaggca gcattggtag gtaacaaatg tgtgaacaga  
 1920  
 caaaccagct tctgagtaga atcctattac ataaaacctg acaagctgca gagggcatct  
 1980  
 ggtcacccat gtagttctat cagtgggca? atccaagcac tctggagagg gacaagtact  
 2040  
 tgcctaata ga ctgcaagact cccaacccag cactgtatcc aagcacacac cacaaccatg  
 2100  
 tcctcccaga ctctgg  
 2117

&lt;210&gt; 4796

&lt;211&gt; 541

&lt;212&gt; PRT



&lt;213&gt; Homo sapiens

&lt;400&gt; 4796

Val Ser Thr Ser Gly Gly Ile Ile Gly Ser Leu Lys Leu Tyr Arg Val  
 1 5 10 15  
 Ala Phe Arg Gly Glu Asp Phe His Leu Gln Met Gly Leu Gly Leu Leu  
 20 25 30  
 Val Glu Gln Ala Leu Val Ala Phe Ile Ser Cys Gly Ser Arg Pro Ser  
 35 40 45  
 Gly Ser Ser Glu Leu Arg Ala Gln Ala Cys Thr Ala His Ser Ala Gly  
 50 55 60  
 Val Pro Gly Leu Ser Ile Pro Thr Ser Ser Trp Leu Pro Leu Met Lys  
 65 70 75 80  
 Gly Pro Pro Glu Val Ala Gln Ser Asn Ile Gln Thr Gln Pro Val Asn  
 85 90 95  
 Arg Glu Met Asp Ala Ala Gly Phe Asp Phe Ser Leu Pro Cys Thr Gln  
 100 105 110  
 Lys Leu Thr Gln Asn Gly Thr Arg Ser Gln Trp Gly Leu Ser Leu Pro  
 115 120 125  
 Ala Leu Met Thr Glu Gly Ser Val Lys His Gly Leu Gly Asp Val Ser  
 130 135 140  
 Ile Leu Lys Lys Thr Phe Ser Thr Arg Leu Gln Asn Ser Asp Trp Phe  
 145 150 155 160  
 Leu Thr Thr Leu Lys Asp Cys Met Thr Leu His Pro Leu Glu Ala Ser  
 165 170 175  
 Pro Pro Gln Asp Lys Gln Pro Ser Ile Met Lys Asp Gln His Cys Met  
 180 185 190  
 Asn Trp Cys Leu Ala Pro Pro Glu Gly Asn Ala Asn Val Ala Phe Ser  
 195 200 205  
 Pro Tyr Gly Phe Leu Ala Trp Gly His Tyr Ile Ser Ala Met Asp Pro  
 210 215 220  
 Cys Thr Leu Leu Pro Leu Ala Gly Pro His Ala Gln Ala Pro Gln Gly  
 225 230 235 240  
 Val Ala Pro Lys Val Thr Thr Arg Gly Leu Gly Pro Ala Gly Ala Ser  
 245 250 255  
 Leu Trp Thr Val Tyr Glu Asp Ser Lys Arg Gln Gly Leu Ser Leu Glu  
 260 265 270  
 Ile Val Gln Gly Leu Gln Gly Gln Ala Gly Pro Glu Ser Ile Ser Pro  
 275 280 285  
 Val Val Thr Val Pro Gln Arg Gly Ile Arg Pro Phe Gly Lys Leu Asp  
 290 295 300  
 Arg Asn Thr Arg Met Ala Ser Leu Asp Cys Lys Ser Leu Glu Trp Gln  
 305 310 315 320  
 Pro Leu Ala Ile Leu Leu Glu Gln Lys Asn Met Ala Ala Asp Gly Pro  
 325 330 335  
 Val Leu Asn Ser Pro Glu Pro Lys Pro Ala Gln Gly Ser Cys Phe Leu  
 340 345 350  
 Leu Gln Arg Val Ala Ser Glu Val Leu Cys Ala Thr Val Pro Ala Arg  
 355 360 365  
 Gly Ile Gln Gly Trp Pro Glu Pro Lys Pro Ser Pro Gly Ser Glu Leu  
 370 375 380  
 Ser Ala Leu Lys Ala His Glu Val Leu Gln Ile Met Leu Gly Leu Pro  
 385 390 395 400  
 Thr Glu Asp Met Leu Val Arg Lys Gln Ala Pro Gln Pro Leu Phe Leu

					405						410						415
Pro	Asp	Gly	His	Val	Gln	Leu	Cys	Ser	Lys	Gly	Gln	Gln	Arg	Leu	Glu		
					420						425						430
Gln	Arg	Ala	Cys	Arg	Arg	Arg	Ser	Arg	Asp	Asn	Thr	Gln	Gln	Arg	Asn		
					435						440						445
Thr	Asp	Met	Ser	Pro	Tyr	Pro	Gln	Arg	Pro	Ala	Gln	Gly	Leu	Val	Trp		
					450						455						460
Ser	Arg	Ala	Asp	Pro	Thr	Thr	Val	Thr	Asp	Ser	Asp	Ala	Asp	Ile	Thr		
					465						470						480
Leu	Gln	Ala	Tyr	Pro	Ser	Gly	Val	Lys	Ser	Trp	Gly	Cys	Pro	Gln	Glu		
					485						490						495
Ile	Ser	Ser	Leu	Val	Trp	Leu	Thr	Lys	Ala	Met	Leu	Ala	Leu	Arg	Gly		
					500						505						510
Gly	Cys	Ser	Ser	Ser	Ser	Ser	Asp	Ser	Met	Gly	Arg	Lys	Ala	Trp	Val		
					515						520						525
Leu	Phe	Asn	Pro	Gln	Gln	Thr	Thr	Leu	Arg	Trp	Ala	Leu					
					530						535						540

```
<210> 4797
<211> 2848
<212> DNA
<213> Homo sapiens
```

```

<400> 4797
ncttccctcc ttccttccgc cgcaacatgg ctaacaacag ccccgcgctg acaggcaact
60
cgcagccgca gcaccaggcg gctgcagctg cggctcagca acagcagcag tgcggcggcg
120
gcggcgctac caagccggcg gtctccggca agcagggcaa tgtgctcccg ctctggggca
180
acgagaagac catgaacctc aaccccatga tctgaccaa catcctgtcg tcgccttact
240
tcaaagtaca gctctacgag ctcaagacct accacgaggt ggtggacgag atctacttta
300
agggtcacgca cgttgaacca tgggagaaaag gaagcaggaa aacagcgggc cagacaggga
360
tgtgcggagg ggtaagtaga agttcgaggt gttggaacag gaggaattgt ttctacagca
420
ttttgcctgt tatacaaat atttaccctg aagttaactc gaaagcaagt gatgggtctt
480
ataacacaca cagactctcc atatattaga gcgcttggat ttatgtatat aagatatata
540
cagcccccta cagatctgtg ggactggttt gaatccttcc ttgatgatga agaggactta
600
gatgtgaagg ctggtggagg ctgtgtaatg accattggag aaatgctacg atcttttctc
660
acaaaactgg agtggttttc taccttgttt ccaagaattc cagttccagt tcaaaagaat
720
attgatcaac agattaaaac ccgacctaga aaaatcaaga aagatgggaa ggaaggtgct
780
gaggaaatag acagacatgt tgaacgcaga cgttcaaggt ctccaaggag atctctgagt
840
ccacggaggt cccaagaag gtcaagaagt agaagtcatc atcggggaggg ccatgggtct
900

```

tctagttttg acagagaatt agaaagagag aaagaacgcc agcgactaga gcgtgaagcc  
960  
aaagaaaggg agaaagaacg gcgaagatcc cgaagtattg accggggggtt agaacgcagg  
1020  
cgacagagaa gtaggggaaag gcatagaagt cgcagtcgaa gtcgtgatag gaaaggggat  
1080  
agaagggaca gggatcgaga aagagagaaa gaaaatgaga gaggtagaag acgagatcgt  
1140  
gactatgata aggaaagagg aaatgaacga gaaaaagaga gagagcgatc aagagaaagg  
1200  
tccaaggaac agagaagtag gggagaggta gaagagaaga aacataaaga agacaaagat  
1260  
gataggcggc acagagatga caaaagagat tccaagaaag agaaaaaaca cagtagaagc  
1320  
agaagcagag aaaggaaaca cagaagtagg agtcgaagta gaaatgcagg gaaacgaagt  
1380  
agaagtagaa gcaaagagaa atcaagtaaa cataaaaaatg aaagtaaaga aaaatcaaat  
1440  
aaacgaagtc gaagtggcag tcaaggaaga actgacagtg ttgaaaaatc aaaaaaacgg  
1500  
gaacatagtc ccagcaaaga aaaatctaga aagcgtagta gaagcaaaga acgttccccac  
1560  
aaacgagatc acagtgatag taaggaccag tcagacaaac atgatcgtcg aaggagccaa  
1620  
agtatagaac aagagagcca agaaaaacag cataaaaaaca aagatgagac tgtgtgaaaa  
1680  
tattttgtaa aagtggatca cattgaatcc tataaatgat taaatctgct tttttcccc  
1740  
acgttgagat tgtgcagtag ttgcactcc tcaagctctc cctgtaggct gcattttcat  
1800  
ttcctctttc gtgtagggaa gtgcctttgt aattccattt attgcattgg tgttttcacc  
1860  
caattgttaa gtttgatata tgatgcacag attgttcttg catttttatt gtttgtttt  
1920  
gaaatgtaca gtctgtacat atgtcctgaa aatgttttaa ttcctttggc atggttgcca  
1980  
tgttggttaa atttgtataa ggcaataaac tgccactaat ctatttttgt tttgtaggtg  
2040  
tgggattatg gtttgtgtac tgaagttagc atggctgtgc ttttcgtaat agaattgtaa  
2100  
agactttgag aatggatcctt ggatgtctat tataggagaa gtatgtgctg ccaatgtaca  
2160  
agaaggcagc attgtaggat taacattcctt gtctactgta tattatcttg gaaggctcct  
2220  
gttaatatgt tacacttaat attctccaca gttaccttta gagagaattt atgagaagtt  
2280  
agtttctgat gcagaggttt ttaggctgtg atttcatcaa aagtcctttt agcattctac  
2340  
ctcaaagga cacttagtat gcctaaaatt tattcactta gtttccctt tttatttgaa  
2400  
aaaatacatg acatgtaatc ttttttctt gaattctttc tcagatttta aagtactata  
2460  
ttaaagaaaa aaattaatgt ctaaagccta gcattcttgc agaaccctat actaacatgt  
2520

aatgggggaga ggggtggggca gatgagtaga gaaacagatt caagcctcaa gcttccaaag  
 2580  
 catttttata aatggaaaat ccttaaatta tgaacagct tgatatagtgc tccttttttt  
 2640  
 aaaattcaga acttttttta ttgataatgg agattgctgt ttgagttttt aaacttaatc  
 2700  
 tagaacagag gagtattaaa agtaatgctg tgctgcatta tttaagacta tcagcaaatt  
 2760  
 atttgataga ttgttcttac aacttgtatt ctgattacag aaccatcatg agtgtggaat  
 2820  
 aaatactgga ttaaatacctt taaaaaaaa  
 2848

<210> 4798

<211> 401

<212> PRT

<213> Homo sapiens

<400> 4798

Met	Gly	Leu	Ile	Thr	His	Thr	Asp	Ser	Pro	Tyr	Ile	Arg	Ala	Leu	Gly
1				5					10					15	
Phe	Met	Tyr	Ile	Arg	Tyr	Thr	Gln	Pro	Pro	Thr	Asp	Leu	Trp	Asp	Trp
			20					25					30		
Phe	Glu	Ser	Phe	Leu	Asp	Asp	Glu	Glu	Asp	Leu	Asp	Val	Lys	Ala	Gly
		35					40					45			
Gly	Gly	Cys	Val	Met	Thr	Ile	Gly	Glu	Met	Leu	Arg	Ser	Phe	Leu	Thr
	50					55				60					
Lys	Leu	Glu	Trp	Phe	Ser	Thr	Leu	Phe	Pro	Arg	Ile	Pro	Val	Pro	Val
65					70					75					80
Gln	Lys	Asn	Ile	Asp	Gln	Gln	Ile	Lys	Thr	Arg	Pro	Arg	Lys	Ile	Lys
			85						90					95	
Lys	Asp	Gly	Lys	Glu	Gly	Ala	Glu	Glu	Ile	Asp	Arg	His	Val	Glu	Arg
			100					105					110		
Arg	Arg	Ser	Arg	Ser	Pro	Arg	Arg	Ser	Leu	Ser	Pro	Arg	Arg	Ser	Pro
			115					120					125		
Arg	Arg	Ser	Arg	Ser	Arg	Ser	His	His	Arg	Glu	Gly	His	Gly	Ser	Ser
			130				135					140			
Ser	Phe	Asp	Arg	Glu	Leu	Glu	Arg	Glu	Lys	Glu	Arg	Gln	Arg	Leu	Glu
145					150					155					160
Arg	Glu	Ala	Lys	Glu	Arg	Glu	Lys	Glu	Arg	Arg	Ser	Arg	Ser	Ile	
			165						170					175	
Asp	Arg	Gly	Leu	Glu	Arg	Arg	Arg	Ser	Arg	Ser	Arg	Glu	Arg	His	Arg
			180						185				190		
Ser	Arg	Ser	Arg	Ser	Arg	Asp	Arg	Lys	Gly	Asp	Arg	Arg	Asp	Arg	Asp
			195				200					205			
Arg	Glu	Arg	Glu	Lys	Glu	Asn	Glu	Arg	Gly	Arg	Arg	Arg	Asp	Arg	Asp
			210				215					220			
Tyr	Asp	Lys	Glu	Arg	Gly	Asn	Glu	Arg	Glu	Lys	Glu	Arg	Glu	Arg	Ser
225					230						235				240
Arg	Glu	Arg	Ser	Lys	Glu	Gln	Arg	Ser	Arg	Gly	Glu	Val	Glu	Glu	Lys
				245						250				255	
Lys	His	Lys	Glu	Asp	Lys	Asp	Asp	Arg	Arg	His	Arg	Asp	Asp	Lys	Arg
			260					265				270			
Asp	Ser	Lys	Lys	Glu	Lys	Lys	His	Ser	Arg	Ser	Arg	Ser	Arg	Glu	Arg

275                      280                      285  
 Lys His Arg Ser Arg Ser Arg Ser Arg Asn Ala Gly Lys Arg Ser Arg  
 290                      295                      300  
 Ser Arg Ser Lys Glu Lys Ser Ser Lys His Lys Asn Glu Ser Lys Glu  
 305                      310                      315                      320  
 Lys Ser Asn Lys Arg Ser Arg Ser Gly Ser Gln Gly Arg Thr Asp Ser  
 325                      330                      335  
 Val Glu Lys Ser Lys Lys Arg Glu His Ser Pro Ser Lys Glu Lys Ser  
 340                      345                      350  
 Arg Lys Arg Ser Arg Ser Lys Glu Arg Ser His Lys Arg Asp His Ser  
 355                      360                      365  
 Asp Ser Lys Asp Gln Ser Asp Lys His Asp Arg Arg Arg Ser Gln Ser  
 370                      375                      380  
 Ile Glu Gln Glu Ser Gln Glu Lys Gln His Lys Asn Lys Asp Glu Thr  
 385                      390                      395                      400  
 Val

<210> 4799  
 <211> 358  
 <212> DNA  
 <213> Homo sapiens

<400> 4799  
 gctagcctgg ctggagaacg tgtggctctg gatcaccttt ctgggcgatc ccaagatcct  
 60  
 cttctgttgc tacttccccg cggectacta cgctccccgc cgtgtgggca tcgcggtgct  
 120  
 ctggatcagc ctcacacccg agtggctcaa cctcatcttc aagtggtag acagagaagc  
 180  
 cctccggcat cctgggtccc acccccgagg gccctgagtc atgtgtttct ttttggagac  
 240  
 aggccctttt ggtgggtcca tgagtctggt tactacagcc aggtccagc ccaggttcac  
 300  
 cagttccctt cttcttgtga gactgggtcca ggcagccctt ctggacactg catgatca  
 358

<210> 4800  
 <211> 119  
 <212> PRT  
 <213> Homo sapiens

<400> 4800  
 Ala Ser Leu Ala Gly Glu Arg Val Ala Leu Asp His Leu Ser Gly Arg  
 1                      5                      10                      15  
 Ser Gln Asp Pro Leu Ser Val Leu Leu Pro Arg Gly Leu Leu Arg Leu  
 20                      25                      30  
 Pro Pro Cys Gly His Arg Gly Ala Leu Asp Gln Pro His His Arg Val  
 35                      40                      45  
 Ala Gln Pro His Leu Gln Val Val Arg Gln Arg Ser Pro Pro Ala Ser  
 50                      55                      60  
 Trp Ser Pro Pro Pro Arg Ala Leu Ser His Val Phe Leu Phe Gly Asp  
 65                      70                      75                      80  
 Arg Pro Phe Trp Trp Val His Glu Ser Gly Tyr Tyr Ser Gln Ala Pro

	85		90		95										
Ala	Gln	Val	His	Gln	Phe	Pro	Ser	Ser	Cys	Glu	Thr	Gly	Pro	Gly	Ser
	100							105					110		
Pro	Ser	Gly	His	Cys	Met	Ile									
	115														

&lt;210&gt; 4801

&lt;211&gt; 1447

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4801

ttggagatca gagggctcgac gctgcttcgt tgccctggact ctgggtttccg ccctggagca  
 60  
 agccgggggcc tggctcggcag ctggggccgcc atggagtgcca cgctggggcgc gggcatcgtg  
 120  
 atagccgagg cgctacagaa ccagctagcc tggctggaga acgtgtggct ctggatcacc  
 180  
 tttctgggag atcccaagat cctctttctg ttctacttcc ccgcggccta ctacgcctcc  
 240  
 cgccgtgtgg gcatcgcggt gctctggatc agcctcatca ccgagtgggt caacctcatc  
 300  
 ttcaagtggg ttcttttttg agacaggccc ttttggtggg tccatgagtc tggttactac  
 360  
 agccaggctc cagcccagggt tcaccagttc ccctcttctt gtgagactgg tccaggcagc  
 420  
 ccttctggac actgcatgat cacaggagca gccctctggc ccataatgac agccctgtct  
 480  
 tcgcaggtgg ccaactcgggc ccgcagccgc tgggtaaggg tgatgcctag cctggcttat  
 540  
 tgcacctcc ttttggeggg tggcttgctg cgaatcttca tcttagcaca tttccctcac  
 600  
 cagggtgctg ctggcctaata aactggcgct gtccctgggct ggctgatgac tnnccccgag  
 660  
 tgcctatgga gcgggagcgt aagcttctat ggggtgactg cactggccct catgctaggc  
 720  
 accagctca tctattggac cctctttaca ctgggcctgg atctttcttg gtccatcagc  
 780  
 ctagccttca agtgggtgta gcggcctgag tggatacacg tggatagccg gccctttgcc  
 840  
 tccctgagcc gtgactcagg ggctgcccctg ggctggggca ttgccttgca ctctccctgc  
 900  
 tatgccaggg tgcgtcgggc acagctggga aatggccaga agatagcctg ccttggtgctg  
 960  
 gccatggggc tgctggggcc cctggactgg ctggggccacc cccctcagat cagcctcttc  
 1020  
 tacattttca atttccctca gtacaccctc tggccatgcc tagtcctggc cctcgtgccc  
 1080  
 tgggcagtgc acatgttcag tgcccaggaa gcaccgcca tccactcttc ctgacttctt  
 1140  
 gtgtgcctcc ctttcccttc cctcccacaa agccaacact ctgtgaccac cacactccag  
 1200  
 gaggcagccc catcccttc cagcccctaa gtaggcctc cctccctaa atctgcttcc  
 1260

gcaccacctg gtcttagccc caaagatggg ccttctctct cccagataag ttggtcctcc  
 1320  
 ctctgccttt cctctcaagc ccccaaagag caaaggcaac agcaagacca gcgggttctt  
 1380  
 gcaacactgt gaggggcagc cagggcggcc ccaataaagc ccttgaatac tttgaaaaaa  
 1440  
 aaaaaaa  
 1447

<210> 4802

<211> 377

<212> PRT

<213> Homo sapiens

<400> 4802

Leu	Glu	Ile	Arg	Gly	Ser	Thr	Leu	Leu	Arg	Cys	Leu	Asp	Ser	Gly	Phe
1				5					10					15	
Arg	Pro	Gly	Ala	Ser	Arg	Gly	Leu	Val	Gly	Ser	Trp	Ala	Ala	Met	Glu
		20					25					30			
Ser	Thr	Leu	Gly	Ala	Gly	Ile	Val	Ile	Ala	Glu	Ala	Leu	Gln	Asn	Gln
	35					40					45				
Leu	Ala	Trp	Leu	Glu	Asn	Val	Trp	Leu	Trp	Ile	Thr	Phe	Leu	Gly	Asp
	50				55					60					
Pro	Lys	Ile	Leu	Phe	Leu	Phe	Tyr	Phe	Pro	Ala	Ala	Tyr	Tyr	Ala	Ser
65				70				75						80	
Arg	Arg	Val	Gly	Ile	Ala	Val	Leu	Trp	Ile	Ser	Leu	Ile	Thr	Glu	Trp
			85					90					95		
Leu	Asn	Leu	Ile	Phe	Lys	Trp	Phe	Leu	Phe	Gly	Asp	Arg	Pro	Phe	Trp
	100						105					110			
Trp	Val	His	Glu	Ser	Gly	Tyr	Tyr	Ser	Gln	Ala	Pro	Ala	Gln	Val	His
	115					120					125				
Gln	Phe	Pro	Ser	Ser	Cys	Glu	Thr	Gly	Pro	Gly	Ser	Pro	Ser	Gly	His
	130					135				140					
Cys	Met	Ile	Thr	Gly	Ala	Ala	Leu	Trp	Pro	Ile	Met	Thr	Ala	Leu	Ser
145				150					155					160	
Ser	Gln	Val	Ala	Thr	Arg	Ala	Arg	Ser	Arg	Trp	Val	Arg	Val	Met	Pro
		165						170					175		
Ser	Leu	Ala	Tyr	Cys	Thr	Phe	Leu	Leu	Ala	Val	Gly	Leu	Ser	Arg	Ile
	180						185					190			
Phe	Ile	Leu	Ala	His	Phe	Pro	His	Gln	Val	Leu	Ala	Gly	Leu	Ile	Thr
	195					200					205				
Gly	Ala	Val	Leu	Gly	Trp	Leu	Met	Thr	Xaa	Pro	Glu	Cys	Leu	Trp	Ser
	210					215				220					
Gly	Ser	Xaa	Ser	Phe	Tyr	Gly	Leu	Thr	Ala	Leu	Ala	Leu	Met	Leu	Gly
225				230					235					240	
Thr	Ser	Leu	Ile	Tyr	Trp	Thr	Leu	Phe	Thr	Leu	Gly	Leu	Asp	Leu	Ser
		245						250					255		
Trp	Ser	Ile	Ser	Leu	Ala	Phe	Lys	Trp	Cys	Glu	Arg	Pro	Glu	Trp	Ile
	260						265					270			
His	Val	Asp	Ser	Arg	Pro	Phe	Ala	Ser	Leu	Ser	Arg	Asp	Ser	Gly	Ala
	275					280						285			
Ala	Leu	Gly	Leu	Gly	Ile	Ala	Leu	His	Ser	Pro	Cys	Tyr	Ala	Gln	Val
	290					295				300					
Arg	Arg	Ala	Gln	Leu	Gly	Asn	Gly	Gln	Lys	Ile	Ala	Cys	Leu	Val	Leu

305                      310                      315                      320  
 Ala Met Gly Leu Leu Gly Pro Leu Asp Trp Leu Gly His Pro Pro Gln  
                                  325                      330                      335  
 Ile Ser Leu Phe Tyr Ile Phe Asn Phe Leu Lys Tyr Thr Leu Trp Pro  
                                  340                      345                      350  
 Cys Leu Val Leu Ala Leu Val Pro Trp Ala Val His Met Phe Ser Ala  
                                  355                      360                      365  
 Gln Glu Ala Pro Pro Ile His Ser Ser  
                                  370                      375

<210> 4803  
 <211> 564  
 <212> DNA  
 <213> Homo sapiens

<400> 4803  
 ggaaagccca ggacttagaa tcagcacact taggcactag cttataaaat attctgttgt  
 60  
 ataaaaaaag agagagagtg cctgtgtgca catgctgccc tgtacctagc cacatgactt  
 120  
 ccaaaacctg ctaatgcctg atttccatta cgtgctactc ctcaaattggc agcggcttct  
 180  
 gaattattaca gagatgggtg gctgtttgct tttctctttt gttgtagcat aaaactgttc  
 240  
 atttttagctt agtgacattt gtcaagaata gcaacctttt tgcttccaag ggacttgaag  
 300  
 gaagttaaata ttagatgctt tcctctcttc ttattttgtg gaggtatttc ctgttcagta  
 360  
 gcaaatcagt tatagaatat attagcattg ttatatatta aactaatgac taatcatttc  
 420  
 agctttattc atactgttgc attttatatt tcacagggag caatagaaaa agtgaaagaa  
 480  
 agtgacaaac tagttgcaac aagtaaaatc accctacaag acaaacagaa catggtgaag  
 540  
 agagtcagca tcatgtctta cgcg  
 564

<210> 4804  
 <211> 53  
 <212> PRT  
 <213> Homo sapiens

<400> 4804  
 Met Thr Asn His Phe Ser Phe Ile His Thr Val Ala Phe Tyr Ile Ser  
 1                      5                      10                      15  
 Gln Gly Ala Ile Glu Lys Val Lys Glu Ser Asp Lys Leu Val Ala Thr  
                                  20                      25                      30  
 Ser Lys Ile Thr Leu Gln Asp Lys Gln Asn Met Val Lys Arg Val Ser  
                                  35                      40                      45  
 Ile Met Ser Tyr Ala  
 50

<210> 4805  
 <211> 1619



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4805

ggccttgat acctggcccg ggatgctggg cggcgtcagg taaccatgga gaaagagctg  
60  
cggagtacca ttcttttcaa tgcctacaaa aaggagatat ttaccaccaa caatggctac  
120  
aaatccatgc agaaaaaact tcggagtaat tggaagattc agagcttaaa agatgaaatc  
180  
acatctgaga agttaaatgg agtaaaactg tggattacag ctgggccaag ggaaaaattt  
240  
actgcagctg agtttgaaat cctgaagaaa tatcttgaca ctggtgggga tgccttctgt  
300  
atgctagggg aaggtggaga atccagattt gacaccaata ttaacttttt actagaagaa  
360  
tatggaatca tggtaataa tgatgctgtg gttagaaatg tatatcacia atatttccat  
420  
cctaaagaag ctctagtttc cagtggagtc ttgaacaggg aaattagccg agctgcagga  
480  
aaggctgtgc tggcgatcat tgatgaggaa agcagtggaa acaatgccca ggctctcacc  
540  
tttgtgtatc cttttggtgc cacattgagt gtcatgaaac cagcagtggc ggttctgtct  
600  
acaggttctg tctgcttccc acttaacaga cccatttttg ctttctatca ctcaaagaac  
660  
caaggtggga agctggcagt gcttggttca tgtcacatgt tcagtgatca atatttggac  
720  
aaagaagaaa acagcaaaat catggatgtt gttgttttcc agtgggtcac gacaggagac  
780  
atccacctaa accagattga tgctgaggac ccagagattt ctgactacat gatgctgccc  
840  
tacacagcca ccctatcaaa gcggaatcga gagtgtctcc aggagagtga tgagatccca  
900  
agggacttta ccacctctt cgacctgtcc atcttccagc tggataccac ctcttccac  
960  
agcgtcatcg aggtcacga gcagctaaat gtgaaacatg aaccactcca gctcatccag  
1020  
cctcagtttg agacgcccgt gccaacctt cagcctgagg ttttctctcc cagtttccgg  
1080  
gagttaccac ctctctctct ggagctatct gatttagatg aaacgttctc ctctgagaag  
1140  
gcacggctgg ctacagattac caataagtgt actgaagaag acctggaatt ttatgtcagg  
1200  
aagtgtggtg atattcttgg agtaaccagt aaactaccaa aggaccaaca ggatgccaaa  
1260  
catatccttg agcacgtctt cttccaagtg gtggagttca agaaattgaa ccaggaacat  
1320  
gacatcgata caagtgaac agcattccag aacaatttct gaagaccatg cctcttgaag  
1380  
ctttttctgc ctctgatctc tctctttgta aactatttct aaattgtttt tcaactcctt  
1440  
atcaaaattg ttatacact ctttctctca tgagctctgg aaggtatatg catcttctgt  
1500

aatactcaga taggtataag atttttcaca aaatccttat gtaagataca ttccattttt  
1560

aaaaattaaa tgtatggttg catctgtctt tttataccct aaaaaaaaaa aaaaaaaaaa  
1619

<210> 4806

<211> 438

<212> PRT

<213> Homo sapiens

<400> 4806

Met	Glu	Lys	Glu	Leu	Arg	Ser	Thr	Ile	Leu	Phe	Asn	Ala	Tyr	Lys	Lys
1				5					10					15	
Glu	Ile	Phe	Thr	Thr	Asn	Asn	Gly	Tyr	Lys	Ser	Met	Gln	Lys	Lys	Leu
			20					25					30		
Arg	Ser	Asn	Trp	Lys	Ile	Gln	Ser	Leu	Lys	Asp	Glu	Ile	Thr	Ser	Glu
		35					40					45			
Lys	Leu	Asn	Gly	Val	Lys	Leu	Trp	Ile	Thr	Ala	Gly	Pro	Arg	Glu	Lys
	50					55					60				
Phe	Thr	Ala	Ala	Glu	Phe	Glu	Ile	Leu	Lys	Lys	Tyr	Leu	Asp	Thr	Gly
65					70					75				80	
Gly	Asp	Val	Leu	Val	Met	Leu	Gly	Glu	Gly	Gly	Glu	Ser	Arg	Phe	Asp
				85				90						95	
Thr	Asn	Ile	Asn	Phe	Leu	Leu	Glu	Glu	Tyr	Gly	Ile	Met	Val	Asn	Asn
			100					105					110		
Asp	Ala	Val	Val	Arg	Asn	Val	Tyr	His	Lys	Tyr	Phe	His	Pro	Lys	Glu
		115					120					125			
Ala	Leu	Val	Ser	Ser	Gly	Val	Leu	Asn	Arg	Glu	Ile	Ser	Arg	Ala	Ala
	130						135				140				
Gly	Lys	Ala	Val	Leu	Ala	Ile	Ile	Asp	Glu	Glu	Ser	Ser	Gly	Asn	Asn
145					150					155					160
Ala	Gln	Ala	Leu	Thr	Phe	Val	Tyr	Pro	Phe	Gly	Ala	Thr	Leu	Ser	Val
				165					170					175	
Met	Lys	Pro	Ala	Val	Ala	Val	Leu	Ser	Thr	Gly	Ser	Val	Cys	Phe	Pro
			180					185					190		
Leu	Asn	Arg	Pro	Ile	Leu	Ala	Phe	Tyr	His	Ser	Lys	Asn	Gln	Gly	Gly
		195					200						205		
Lys	Leu	Ala	Val	Leu	Gly	Ser	Cys	His	Met	Phe	Ser	Asp	Gln	Tyr	Leu
	210					215					220				
Asp	Lys	Glu	Glu	Asn	Ser	Lys	Ile	Met	Asp	Val	Val	Val	Phe	Gln	Trp
225					230					235					240
Leu	Thr	Thr	Gly	Asp	Ile	His	Leu	Asn	Gln	Ile	Asp	Ala	Glu	Asp	Pro
			245						250					255	
Glu	Ile	Ser	Asp	Tyr	Met	Met	Leu	Pro	Tyr	Thr	Ala	Thr	Leu	Ser	Lys
		260						265					270		
Arg	Asn	Arg	Glu	Cys	Leu	Gln	Glu	Ser	Asp	Glu	Ile	Pro	Arg	Asp	Phe
		275					280						285		
Thr	Thr	Leu	Phe	Asp	Leu	Ser	Ile	Phe	Gln	Leu	Asp	Thr	Thr	Ser	Phe
	290					295					300				
His	Ser	Val	Ile	Glu	Ala	His	Glu	Gln	Leu	Asn	Val	Lys	His	Glu	Pro
305					310					315					320
Leu	Gln	Leu	Ile	Gln	Pro	Gln	Phe	Glu	Thr	Pro	Leu	Pro	Thr	Leu	Gln
			325					330						335	
Pro	Ala	Val	Phe	Pro	Pro	Ser	Phe	Arg	Glu	Leu	Pro	Pro	Pro	Pro	Leu

340 345 350  
 Glu Leu Phe Asp Leu Asp Glu Thr Phe Ser Ser Glu Lys Ala Arg Leu  
 355 360 365  
 Ala Gln Ile Thr Asn Lys Cys Thr Glu Glu Asp Leu Glu Phe Tyr Val  
 370 375 380  
 Arg Lys Cys Gly Asp Ile Leu Gly Val Thr Ser Lys Leu Pro Lys Asp  
 385 390 395 400  
 Gln Gln Asp Ala Lys His Ile Leu Glu His Val Phe Phe Gln Val Val  
 405 410 415  
 Glu Phe Lys Lys Leu Asn Gln Glu His Asp Ile Asp Thr Ser Glu Thr  
 420 425 430  
 Ala Phe Gln Asn Asn Phe  
 435

<210> 4807  
 <211> 1177  
 <212> DNA  
 <213> Homo sapiens

<400> 4807  
 ntgggactct gccctcttac ctcagcacag aatcgccccg ggtcctacta cagaatcaat  
 60  
 ccttgaacac tgcctccacg tcgcccggctc aatctgggcg agaaccaga cttccaccgc  
 120  
 agccccgcaa tctgcagacc tcagcggcag cgcaggtggc agacctgcct cctttgcctg  
 180  
 tgagtcatgg cagctcccat gaatggccaa gtgtgtgtgg tgactggtgc ctccaggggt  
 240  
 attggcctg gcattgcctt gcagctctgc aaagcaggcg ccacagtta catcactggc  
 300  
 cgccatctgg acacccttcg cgttgttgct caggaggcac aatccctcgg gggccaatgt  
 360  
 gtgcctgtgg tgtgcgattc aagccaggag agtgaagtgc gaagcctgtt tgagcaagtg  
 420  
 gatcgggaac agcaagggcg tctagatgtg ctgggtcaaca atgcttatgc aggggtccag  
 480  
 acgatcctga acaccaggaa taaggcattc tgggaaaccc ctgcctccat gtgggatgat  
 540  
 atcaacaacg tcggactcag aggccactac ttttgctcag tgtatggggc acggctgatg  
 600  
 gtaccagctg gccaggggct catcgtgggc atctcctccc caggaagcct gcagtatatg  
 660  
 ttcaatgtcc cctatggtgt gggcaaagct gcgtgtgaca agctggctgc tgactgtgcc  
 720  
 cacgagctgc ggcgccatgg ggtcagctgt gtgtctctgt ggcgggggat tgtgcagaca  
 780  
 gaactgctga aggagcatat ggcaaaggag gaggtcctgc aggatcctgt gttgaagcag  
 840  
 ttcaaatacag ccttctcatc tgcggaaaacc acagaattga gtggcaaata tgtggtggct  
 900  
 ttggcaacag atcccaatat cctgagcctg agtggttaagg tgctgccatc ctgtgacctt  
 960  
 gctcgacgct atggccttcg ggatgtggac ggccgccccg tccaagacta tttgtctttg  
 1020

agctctgttc tctcacacgt gtcgggectg ggctggctgg cctcctacct gccctccttc  
 1080  
 ctccgtgtgc ccaagtggat tattgccctc tacactagca agttctaacc ctccgtgtct  
 1140  
 gacactacgt ctctgcttgt ctgagaagac aacgcgt  
 1177

<210> 4808  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 4808

Met	Ala	Ala	Pro	Met	Asn	Gly	Gln	Val	Cys	Val	Val	Thr	Gly	Ala	Ser
1				5					10					15	
Arg	Gly	Ile	Gly	Arg	Gly	Ile	Ala	Leu	Gln	Leu	Cys	Lys	Ala	Gly	Ala
			20					25					30		
Thr	Val	Tyr	Ile	Thr	Gly	Arg	His	Leu	Asp	Thr	Leu	Arg	Val	Val	Ala
		35					40					45			
Gln	Glu	Ala	Gln	Ser	Leu	Gly	Gly	Gln	Cys	Val	Pro	Val	Val	Cys	Asp
	50					55					60				
Ser	Ser	Gln	Glu	Ser	Glu	Val	Arg	Ser	Leu	Phe	Glu	Gln	Val	Asp	Arg
65					70					75				80	
Glu	Gln	Gln	Gly	Arg	Leu	Asp	Val	Leu	Val	Asn	Asn	Ala	Tyr	Ala	Gly
				85					90					95	
Val	Gln	Thr	Ile	Leu	Asn	Thr	Arg	Asn	Lys	Ala	Phe	Trp	Glu	Thr	Pro
			100					105					110		
Ala	Ser	Met	Trp	Asp	Asp	Ile	Asn	Asn	Val	Gly	Leu	Arg	Gly	His	Tyr
		115					120					125			
Phe	Cys	Ser	Val	Tyr	Gly	Ala	Arg	Leu	Met	Val	Pro	Ala	Gly	Gln	Gly
	130					135					140				
Leu	Ile	Val	Val	Ile	Ser	Ser	Pro	Gly	Ser	Leu	Gln	Tyr	Met	Phe	Asn
145					150					155				160	
Val	Pro	Tyr	Gly	Val	Gly	Lys	Ala	Ala	Cys	Asp	Lys	Leu	Ala	Ala	Asp
				165					170					175	
Cys	Ala	His	Glu	Leu	Arg	Arg	His	Gly	Val	Ser	Cys	Val	Ser	Leu	Trp
			180					185					190		
Pro	Gly	Ile	Val	Gln	Thr	Glu	Leu	Leu	Lys	Glu	His	Met	Ala	Lys	Glu
	195						200					205			
Glu	Val	Leu	Gln	Asp	Pro	Val	Leu	Lys	Gln	Phe	Lys	Ser	Ala	Phe	Ser
	210					215					220				
Ser	Ala	Glu	Thr	Thr	Glu	Leu	Ser	Gly	Lys	Cys	Val	Val	Ala	Leu	Ala
225					230					235				240	
Thr	Asp	Pro	Asn	Ile	Leu	Ser	Leu	Ser	Gly	Lys	Val	Leu	Pro	Ser	Cys
			245						250				255		
Asp	Leu	Ala	Arg	Arg	Tyr	Gly	Leu	Arg	Asp	Val	Asp	Gly	Arg	Pro	Val
			260					265					270		
Gln	Asp	Tyr	Leu	Ser	Leu	Ser	Ser	Val	Leu	Ser	His	Val	Ser	Gly	Leu
	275						280					285			
Gly	Trp	Leu	Ala	Ser	Tyr	Leu	Pro	Ser	Phe	Leu	Arg	Val	Pro	Lys	Trp
	290					295					300				
Ile	Ile	Ala	Leu	Tyr	Thr	Ser	Lys	Phe							
305					310										

<210> 4809  
 <211> 999  
 <212> DNA  
 <213> Homo sapiens

<400> 4809  
 tccggagagg gccttgctac attctcctac tccccaagtg aggcctccgt ccttctgttc  
 60  
 cccatgtgag gcctccatgg aatgaggagg ggtctgtccc agcagtgcct accctgcttc  
 120  
 tcctgtaaga gactgttccc tcctcccaca ctctcctgag aagcacttgc ccctccagga  
 180  
 taacagcatc actgagcctg gggaacagac agtccctagt ccaagccctg gaggtaagaa  
 240  
 aggagggggc ggccaggatg ctcaagtgtg tcagcatagg ccaggccctt gctaccttga  
 300  
 ccctgagggc cagagcacag gcggaactcg gacatagggc cacaggtgac tgcttaatga  
 360  
 caaccatgct agctcctggc aatgaggggt caggagcgtg tgtgaataat ggggcacctg  
 420  
 acccagggct ggggtacaga ggggtgggggt taaaaatggt tcatctgtcg caggacacct  
 480  
 ggaggatgag gaaagagccc ccaggcaaac ccattctgtg agcaattccc atctgctgtc  
 540  
 tccaaatcct gtctagactc tgacctgtct ggccccttcc agggctccca gctggttgc  
 600  
 cacagcggcc tccaaaccaa cacccttgcg gctctggtac cagcccacgc cagacagaga  
 660  
 agccagccat cattgtcctt gtcttctctc ccgagaaaagt cgaggctcctg gcagggtcctc  
 720  
 gggcctatgt ggccaggccc tggatacttc cctgacctca cctcccctac agcacagccc  
 780  
 cttcagctcc tgggggcttt gcacggctgc tcctttcttc cccctctgcc ctcaaggccag  
 840  
 ccttgtccct gatcactacc ttcttcattt ctgtacctgg ctgacatctg tccttccccg  
 900  
 ccaactacaa ggtagacccc gggagggcag ggatgggtgca ctgtgttcag ggtgcatttg  
 960  
 ccgccagtgg agggaggcac ccaggccact cccgccggc  
 999

<210> 4810  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 4810  
 Gly Lys Ser Pro Gln Ala Asn Pro Phe Cys Glu Gln Phe Pro Ser Ala  
 1 5 10 15  
 Val Ser Lys Ser Cys Leu Asp Ser Asp Pro Ala Gly Pro Phe Gln Gly  
 20 25 30  
 Ser Gln Pro Gly Cys His Ser Gly Leu Leu Thr Asn Thr Pro Ala Ala  
 35 40 45  
 Leu Val Pro Ala His Ala Arg Gln Arg Ser Gln Pro Ser Leu Leu Leu

50		55		60
Ser Ser Ser Pro Arg Lys Ser Arg Ser Trp Gln Gly Ser Gly Pro Met				
65		70		75
Trp Pro Gly Pro Gly Tyr Phe Pro Asp Leu Thr Ser Pro Thr Ala Gln				
	85		90	95
Pro Leu Gln Leu Leu Gly Ala Leu His Gly Cys Ser Phe Pro Pro Pro				
	100		105	110
Leu Pro Ser Gly Gln Pro Cys Pro				
	115		120	

&lt;210&gt; 4811

&lt;211&gt; 3207

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4811

```

nttagtctgc cccacacctc gcacccgccc ccggaggaggca cccgaggacc atgactatga
60
cagatcctgc ctcgatggcc ccgccacccc gagaagagga ggaagaagag gaggaggagg
120
atgaaccgtg ccagaagcc ccagacccc cccaggagcg ccggcagaag cctgtttgtgc
180
accctcggc acctgcccc ctcctaagg actacgcttt taccttcttc gacccaatg
240
accggcggtg ccaggagatc ctgtttgacc ctcagaccac catccccgag ctgtttgcca
300
ttgtgcgcca gtgggtgccc caagtccagc acaagataga cgatcatggc aatgagattc
360
tgcgccgagg ctgccatgtg aacgatcgtg acgggctgac cgacatgaca ctgctccact
420
atgcgtgcaa agctggggcc cacggagtcg gggaccgcg gcagcgtgcg cctctcgag
480
cagctgctgg cgctgggcca gatgtgacgc tgcgtagcgc tggaccaaca tgaacgcgt
540
tactacgcg gcctattttg atgtgcccga cctcgtgctg gtgctgctga aggggtgcgag
600
gccgcgagtg gtgaactcca cgtgcagtga cttcaaccac ggctcagccc tgcacatcgc
660
tgcttccagc ctgtgcctgg gcgccgcaa tggttgctgg agcacggcgc caaccctgcg
720
ctgaggaatc gaaaaggaca ggtgccggcg gaggtggtcc cagatcctat ggacatgtcc
780
ctggacaagg cagaggcggc actggtggcc aaggagctgc ggacgcttct ggaagaggca
840
gtgccactat cttgcgccct cccaaggtc acgctacca actatgaaa cgtcccaggc
900
aatctcatgc ttagcgcact gggcttgccg ctgggagacc gcgtgctgct ggatggccag
960
aagacgggca cactgcggtt ctgtgggacc acggagtttg ccagcggcag ttgggtgggg
1020
gtggagctgg acgaacctga gggcaagaac gatggcagcg ttgggggctg tcggtacttc
1080
atctgcccct ccaagcaggg tctctttgcc tccgtgtcca agatctccaa ggcagtggac
1140

```

gcacccccct cctctgtcac ctccacaccc ggaccccccc ggatggactt ctcccgtgtc  
1200  
accggcaaaag gccgcaggga acacaaaggc aagaagaaga ccccatcatc cccatctctg  
1260  
ggcagcttgc agcagcgtga cggggccaag gctgaggttg gagaccaggt ccttgtcgcg  
1320  
ggccagaagc aggggatcgt gcgcttctac gggaagacag actttgcccc aggttactgg  
1380  
tatggcattg agctggacca gccacaggc aagcatgatg gctctgtctt cgtgtccgg  
1440  
tacttcactt gcccccgag gcatggggtc ttcgcaccag catcccgtat tcagaggatt  
1500  
ggcggatcca ctgattcccc cggggacagc gttggagcca aaaaagtgc tcaagtgaca  
1560  
atgacgcagc ccaaacgcac cttcaccaca gtccggaccc caaaggacat tgcacagag  
1620  
aactccattt ccaggttgct gttctgctgc tggttcccct ggatgctgag ggcggagatg  
1680  
cagtcttaga ggccctggac acctgacaaa gagacagagt cccactagc atctcctgac  
1740  
acccgaggag ccctgagtca ccctgagata gagattccca gtaacacatc cagagtagag  
1800  
acccctgtta gccagccctc gatcattgag gcccattat taacagatac tcccataata  
1860  
acccccaaat acagacccca tgtcaccagc aaagagattc cctgagtagc accttcaggc  
1920  
tagtccttat ccccaacccc tcagagcaga tcccagatt aacagatttc catatcacc  
1980  
caaattgatg tgaccctctc cacataatgc attacaacag aacattcttg aatcacccaa  
2040  
ccctggatca gaaacctccc cattaacaaa cactgcccct taagtccctt tgaaataaac  
2100  
ataggtcaca ccccaaagc aaaagagtaa cagacattca tgtcattgtt cccatttaa  
2160  
catcagtcct ctcaagatgt cgtgacccca tggtcaccct gaagccctta gattccaacc  
2220  
cctcaatcag agacttcctt cattaacaaa gacccttggtt cttatccctc aagaagaaac  
2280  
ccaccataac cagcccactg tcaccctaa ttacagaca ccaaacagt cctggaagtg  
2340  
ctaattacag gaccccccaa gtcttcttac cctctgcacc ctcaagaaac cccagtgcc  
2400  
ttgtatgaag cccacccac atggcccaca gtcctgtgc tggccagact ccagaaaat  
2460  
tctctatttt ttaagtaacg acttccccct ttgggggacc caaaatttg gagggcccat  
2520  
tctaggactc tggggatccc aaaccctaga gtacacacgt cccaaactcc cctgtgccct  
2580  
caagtcctac agcccctaga agacccaat gccgtaactc ctaggacccc caaatcatgg  
2640  
aatcccaaat cccagggaa tcccaaattt gaaaatccaa tcccaagtcc ccaggaaacc  
2700  
caatcatgag gtccttgtgc ctggtatgga ggagactgca gtcaggatat gcattccagg  
2760

ctcccagaca cctcaagccc tattcacagg caccaggaaa cccacacag gaattcccat  
 2820  
 ccctggaaac tggagaattt caatgccccg agtccatggg tttcaagaca ccaaattcca  
 2880  
 agagccccag ccctaaggga accccaaatc ctaaagcctc catctctaata aatggaagg  
 2940  
 ccccaaggcc ctgaggggat ctcaaatacct ggaaccccg tttcaatcta cgttctagtc  
 3000  
 actggcctca aaggacccca cagcacctgg gccagaccaa cagctcgagg gagaacctga  
 3060  
 aggccagggg ggtccagggc ggacctgggg ccccgaccac caaggacagc tcacgactgc  
 3120  
 cccttcactg catgtcccca aactcagcat gactcctgtc ctcttcaata aagacgtttc  
 3180  
 tatggccaaa aaaaaaaaaa aaaaaaa  
 3207

&lt;210&gt; 4812

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4812

Met	Asp	Met	Ser	Leu	Asp	Lys	Ala	Glu	Ala	Ala	Leu	Val	Ala	Lys	Glu
1				5				10						15	
Leu	Arg	Thr	Leu	Glu	Glu	Ala	Val	Pro	Leu	Ser	Cys	Ala	Leu	Pro	
			20				25					30			
Lys	Val	Thr	Leu	Pro	Asn	Tyr	Asp	Asn	Val	Pro	Gly	Asn	Leu	Met	Leu
			35				40					45			
Ser	Ala	Leu	Gly	Leu	Arg	Leu	Gly	Asp	Arg	Val	Leu	Leu	Asp	Gly	Gln
			50				55				60				
Lys	Thr	Gly	Thr	Leu	Arg	Phe	Cys	Gly	Thr	Thr	Glu	Phe	Ala	Ser	Gly
65					70				75					80	
Ser	Trp	Val	Gly	Val	Glu	Leu	Asp	Glu	Pro	Glu	Gly	Lys	Asn	Asp	Gly
				85				90						95	
Ser	Val	Gly	Gly	Val	Arg	Tyr	Phe	Ile	Cys	Pro	Pro	Lys	Gln	Gly	Leu
			100					105					110		
Phe	Ala	Ser	Val	Ser	Lys	Ile	Ser	Lys	Ala	Val	Asp	Ala	Pro	Pro	Ser
			115				120					125			
Ser	Val	Thr	Ser	Thr	Pro	Gly	Pro	Pro	Arg	Met	Asp	Phe	Ser	Arg	Val
			130				135				140				
Thr	Gly	Lys	Gly	Arg	Arg	Glu	His	Lys	Gly	Lys	Lys	Lys	Thr	Pro	Ser
145					150					155				160	
Ser	Pro	Ser	Leu	Gly	Ser	Leu	Gln	Gln	Arg	Asp	Gly	Ala	Lys	Ala	Glu
				165				170						175	
Val	Gly	Asp	Gln	Val	Leu	Val	Ala	Gly	Gln	Lys	Gln	Gly	Ile	Val	Arg
			180					185					190		
Phe	Tyr	Gly	Lys	Thr	Asp	Phe	Ala	Pro	Gly	Tyr	Trp	Tyr	Gly	Ile	Glu
			195				200					205			
Leu	Asp	Gln	Pro	Thr	Gly	Lys	His	Asp	Gly	Ser	Val	Phe	Gly	Val	Arg
			210				215				220				
Tyr	Phe	Thr	Cys	Pro	Pro	Arg	His	Gly	Val	Phe	Ala	Pro	Ala	Ser	Arg
225					230					235				240	
Ile	Gln	Arg	Ile	Gly	Gly	Ser	Thr	Asp	Ser	Pro	Gly	Asp	Ser	Val	Gly



245 250 255  
 Ala Lys Lys Val His Gln Val Thr Met Thr Gln Pro Lys Arg Thr Phe  
 260 265 270  
 Thr Thr Val Arg Thr Pro Lys Asp Ile Ala Ser Glu Asn Ser Ile Ser  
 275 280 285  
 Arg Leu Leu Phe Cys Cys Trp Phe Pro Trp Met Leu Arg Ala Glu Met  
 290 295 300  
 Gln Ser  
 305

<210> 4813  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

<400> 4813  
 tggccacact tacccaacag gtaggaggta cagggaggat taaactgaac gcgggttcctg  
 60  
 gtgggtgtcc tgcacatgct gctgtctcct tggggctctg cacctgccct cctgtctgcc  
 120  
 agtgactgtg ggtgggaaag gaggccgtgg tggtgcagc ttctctctgc aaacctccac  
 180  
 ctgccccaca gggcttggtt ttctctccag ctgtccagga aaccaccatc atgattgtta  
 240  
 aacacagatt tgaacattca cgaagaaact tccaggggtga gccaaaccct ctctctcccc  
 300  
 actgcacctc caagcagcct tcctgaaagg gaaaagagta cagacctgcc ctctggggac  
 360  
 ccctgtgccc tgccatgacc agcctttccc cttcacgcgt  
 400

<210> 4814  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

<400> 4814  
 Met Ala Gly His Arg Gly Pro Gln Arg Ala Gly Leu Tyr Ser Phe Pro  
 1 5 10 15  
 Phe Gln Glu Gly Cys Leu Glu Val Gln Trp Gly Gly Arg Gly Phe Gly  
 20 25 30  
 Ser Pro Trp Lys Phe Leu Arg Glu Cys Ser Asn Leu Cys Leu Thr Ile  
 35 40 45  
 Met Met Val Val Ser Trp Thr Ala Gly Gly Lys Ala Lys Pro Cys Gly  
 50 55 60  
 Arg Gly Gly Gly Leu Gln Arg Lys Ala Ala Ala Thr Thr Ala Ser Phe  
 65 70 75 80  
 Pro Thr His Ser His Trp Gln Thr Gly Gly Gln Val Gln Ser Pro Lys  
 85 90 95  
 Glu Thr Ala Ala Cys Ala Gly His Pro Pro Gly Thr Ala Phe Ser Leu  
 100 105 110  
 Ile Leu Pro Val Pro Pro Thr Cys Trp Val Ser Val Ala  
 115 120 125

<210> 4815  
 <211> 528  
 <212> DNA  
 <213> Homo sapiens

<400> 4815  
 nngcgcgcca ggagctctgc attgaaggca ctgggggtaaa gtgaatgccg aagacagaag  
 60  
 atttgatga tacaccactg actttctttg tttggaatac acgttatgaa ccctttctgg  
 120  
 agcatgtcta caagctctgt acgcaaacga tctgaagggtg aagagaagac attaacaggg  
 180  
 gacgtgaaaa ccagtcctcc acgaactgca ccaaagaaac agctaccttc tattcccaaa  
 240  
 aatgctttgc ccataactaa gcctacatca cctgccccag cagcacagtc aacaaatggc  
 300  
 acccatgcct cttacggacc cttctacctg gaatattcac tccttgaga atttaccttg  
 360  
 gttgtgaagc agaagctacc aggcgtctat gtgcagccat cttatcgctc tgcattaatg  
 420  
 tagtttggag taatattcat acggcatgga ctttaccaag atggcgtatt taagtttaca  
 480  
 gtttacatcc ctgataacta tccagatggg gactgtccac gcttggtg  
 528

<210> 4816  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 4816  
 Met Asn Pro Phe Trp Ser Met Ser Thr Ser Ser Val Arg Lys Arg Ser  
 1 5 10 15  
 Glu Gly Glu Glu Lys Thr Leu Thr Gly Asp Val Lys Thr Ser Pro Pro  
 20 25 30  
 Arg Thr Ala Pro Lys Lys Gln Leu Pro Ser Ile Pro Lys Asn Ala Leu  
 35 40 45  
 Pro Ile Thr Lys Pro Thr Ser Pro Ala Pro Ala Ala Gln Ser Thr Asn  
 50 55 60  
 Gly Thr His Ala Ser Tyr Gly Pro Phe Tyr Leu Glu Tyr Ser Leu Leu  
 65 70 75 80  
 Ala Glu Phe Thr Leu Val Val Lys Gln Lys Leu Pro Gly Val Tyr Val  
 85 90 95  
 Gln Pro Ser Tyr Arg Ser Ala Leu Met  
 100 105

<210> 4817  
 <211> 1106  
 <212> DNA  
 <213> Homo sapiens

<400> 4817  
 nntgatcagg aagcgggagc gtagggccac gcctgcggcg ctgctgggtg aggctgtgtg  
 60

ggtgggggac gggccgaggc gatggcggag aagtttgacc acctagagga gcacctggag  
 120  
 aagttcgtgg agaacattcg gcagctcggc atcatcgtca gtgacttcca gcccagcagc  
 180  
 caggccgggc tcaacaaaaa gctgaatttt attgttactg gcttacagga tattgacaag  
 240  
 tgcagacagc agcttcatga tattactgta ccgttagaag tttttgaata tatagatcaa  
 300  
 ggtcgaaatc cccagctcta caccaaagag tgcctggaga gggctctagc taaaaatgag  
 360  
 caagttaaag gcaagatcga caccatgaag aaatttaaaa gcctgttgat tcaagaactt  
 420  
 tctaaagtat ttccggaaga catggctaag tatcgaagca tccgggggga ggatcaccgc  
 480  
 ccttcttaac cagctcacc cccctgtgtg aagatcccc gggactgcga tgcggcgtga  
 540  
 ggctgggact gcgagtgtg acgccacctt cctgctgagg tgggactggg ccctggacac  
 600  
 accctcagc ccctctgtcc tcattgtttg gcctcatggg accgaggggc tggaggagag  
 660  
 gcggagctgt gccccagctg ttccagcagc ttgtctggcg tcaactggct ttcagagtgc  
 720  
 tgacccctca tcaactgtggg gatcattctc tctgagggca gatgaggcgc aggaaaatag  
 780  
 tcttgaaat gttaaataat atgggtaaat taaaagtttt acaacattct acctaatatt  
 840  
 tttcttttaa catacttttt ctgttctatt gtattatggg gtccgaaagc taaataacga  
 900  
 ctaggaaaaa ttttttttaa aaaagaaaaa tcagtttaat gtgggaagta ctttaagtgg  
 960  
 attatatttt acattttcaa gtatagtgc taaagaatgt tttaaatgta actgttttca  
 1020  
 tggatttcaa ttagacatgc ctataataaa ctaagtatgt ggcttaaaaa aaaaaaaaaa  
 1080  
 aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1106

&lt;210&gt; 4818

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4818

Met	Ala	Glu	Lys	Phe	Asp	His	Leu	Glu	Glu	His	Leu	Glu	Lys	Phe	Val
1				5					10					15	
Glu	Asn	Ile	Arg	Gln	Leu	Gly	Ile	Ile	Val	Ser	Asp	Phe	Gln	Pro	Ser
			20					25					30		
Ser	Gln	Ala	Gly	Leu	Asn	Gln	Lys	Leu	Asn	Phe	Ile	Val	Thr	Gly	Leu
		35				40						45			
Gln	Asp	Ile	Asp	Lys	Cys	Arg	Gln	Gln	Leu	His	Asp	Ile	Thr	Val	Pro
	50					55					60				
Leu	Glu	Val	Phe	Glu	Tyr	Ile	Asp	Gln	Gly	Arg	Asn	Pro	Gln	Leu	Tyr
65					70				75					80	
Thr	Lys	Glu	Cys	Leu	Glu	Arg	Ala	Leu	Ala	Lys	Asn	Glu	Gln	Val	Lys

	85		90		95
Gly Lys Ile Asp Thr Met Lys Lys Phe Lys Ser Leu Leu Ile Gln Glu					
	100		105		110
Leu Ser Lys Val Phe Pro Glu Asp Met Ala Lys Tyr Arg Ser Ile Arg					
	115		120		125
Gly Glu Asp His Pro Pro Ser					
	130		135		

&lt;210&gt; 4819

&lt;211&gt; 1655

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4819

cggccgcggc ccggactccg cgggtgggcga gcgccctgtg aggtgaccat ggaggctggg  
 60  
 ggcctcccct tggagctgtg gcgcctgctc ttagcctact tgcaccttcc cgacctgggc  
 120  
 cgctgcagcc tggatgagc ggcctgggat gaactgatcc tcagtctcga cagcaccgcg  
 180  
 tggcggcagc tgtgtctggg ttgcaccgag tgccgccatc ccaattggcc caaccagcca  
 240  
 gatgtggagc ctgagctctg gagagaagcc ttcaagcagc attaccttgc atccaagaca  
 300  
 tggaccaaga atgccttggc cttggagtct tccatctgct tttctctatt ccgccggagg  
 360  
 agggaaacgac gtaccctgag tgttgggcca ggccgtgagt ttgacagcct gggcagtgcc  
 420  
 ttggccatgg ccagcctgta tgaccgaatt gtgctcttcc caggtgtgta cgaagagcaa  
 480  
 ggtgaaatca tcttgaaggt gcctgtggag attgtagggc aggggaagtt ggggtgaagt  
 540  
 gccctgctgg ccagcattga tcagcactgc tcaaccacac gcctgtgcaa cctcgtcttc  
 600  
 acgccagcct ggttctcacc catcatgtat aagacaacat caggtcacgt ccagtttgac  
 660  
 aactgcaact ttgagaacgg gcacatccag gtccatggcc cgggtacttg ccaagtgaag  
 720  
 ttctgtacct tcaaaaacac ccatactctc ctgcacaacg tgcccctgtg tgtcctggaa  
 780  
 aactgtgaat ttgtgggcag tgaaaacaac tctgtgactg ttgaggggtca cccatctgcg  
 840  
 gataagaact gggcctacaa gtatctacta gggcttatca agtcctcacc cacttttctc  
 900  
 cccagagagg actctgactt tttaatgtcc ctggacctag agagccggga ccaggcctgg  
 960  
 agcccaaaga cctgtgacat tgttatcgag ggcagccaga gccctaccag cccagcttct  
 1020  
 agtcccccac agccaggctc caaggctggc tcacaggagg cagaggtggg tagtgatggg  
 1080  
 gaaaggggtg cccagacccc ggacagcagc gatggaggcc tgagtccag cgggtaggat  
 1140  
 gaagatgagg accagctgat gtacagacta tcctaccaag tgcagggccc acgccctgta  
 1200

ttggggggct cattttctggg cccacctcta ccaggagcat ccattcagct gcccagctgc  
 1260  
 ctagtgtga actcactgca gcaggagctg cagaaggata aggaggccat ggcactggcc  
 1320  
 aactccgtgc agggctgcct catccgcaag tgcctcttcc gggacgggaa gggaggcgctc  
 1380  
 ttcgtctgct cccacggcag agccaagatg gaaggaaaca tcttccggaa cctgacttac  
 1440  
 gcagtgcggt gtatacataa tagcaagatc atcatgctca ggaacgacat ttaccgctgc  
 1500  
 cgagcgtcag gcattctttct tcgcttggag ggcgggtggct tgattgccgg caacaacatt  
 1560  
 taccacaatg cagaggctgg tgtagacatc cggaaaaagt ccaaccctact tcagattggg  
 1620  
 aaccctcgtg ccgaattctt ggctcggagg gccaa  
 1655

<210> 4820

<211> 551

<212> PRT

<213> Homo sapiens

<400> 4820

Arg	Pro	Arg	Pro	Gly	Leu	Arg	Gly	Gly	Arg	Ala	Pro	Cys	Glu	Val	Thr
1				5				10					15		
Met	Glu	Ala	Gly	Gly	Leu	Pro	Leu	Glu	Leu	Trp	Arg	Met	Ile	Leu	Ala
			20					25					30		
Tyr	Leu	His	Leu	Pro	Asp	Leu	Gly	Arg	Cys	Ser	Leu	Val	Cys	Arg	Ala
		35					40					45			
Trp	Tyr	Glu	Leu	Ile	Leu	Ser	Leu	Asp	Ser	Thr	Arg	Trp	Arg	Gln	Leu
	50					55					60				
Cys	Leu	Gly	Cys	Thr	Glu	Cys	Arg	His	Pro	Asn	Trp	Pro	Asn	Gln	Pro
65					70					75				80	
Asp	Val	Glu	Pro	Glu	Ser	Trp	Arg	Glu	Ala	Phe	Lys	Gln	His	Tyr	Leu
				85					90					95	
Ala	Ser	Lys	Thr	Trp	Thr	Lys	Asn	Ala	Leu	Asp	Leu	Glu	Ser	Ser	Ile
			100					105					110		
Cys	Phe	Ser	Leu	Phe	Arg	Arg	Arg	Arg	Glu	Arg	Arg	Thr	Leu	Ser	Val
		115				120						125			
Gly	Pro	Gly	Arg	Glu	Phe	Asp	Ser	Leu	Gly	Ser	Ala	Leu	Ala	Met	Ala
		130				135					140				
Ser	Leu	Tyr	Asp	Arg	Ile	Val	Leu	Phe	Pro	Gly	Val	Tyr	Glu	Glu	Gln
145					150					155					160
Gly	Glu	Ile	Ile	Leu	Lys	Val	Pro	Val	Glu	Ile	Val	Gly	Gln	Gly	Lys
			165						170					175	
Leu	Gly	Glu	Val	Ala	Leu	Leu	Ala	Ser	Ile	Asp	Gln	His	Cys	Ser	Thr
			180					185					190		
Thr	Arg	Leu	Cys	Asn	Leu	Val	Phe	Thr	Pro	Ala	Trp	Phe	Ser	Pro	Ile
		195					200					205			
Met	Tyr	Lys	Thr	Thr	Ser	Gly	His	Val	Gln	Phe	Asp	Asn	Cys	Asn	Phe
	210					215					220				
Glu	Asn	Gly	His	Ile	Gln	Val	His	Gly	Pro	Gly	Thr	Cys	Gln	Val	Lys
225					230					235				240	
Phe	Cys	Thr	Phe	Lys	Asn	Thr	His	Ile	Phe	Leu	His	Asn	Val	Pro	Leu

245 250 255  
 Cys Val Leu Glu Asn Cys Glu Phe Val Gly Ser Glu Asn Asn Ser Val  
 260 265 270  
 Thr Val Glu Gly His Pro Ser Ala Asp Lys Asn Trp Ala Tyr Lys Tyr  
 275 280 285  
 Leu Leu Gly Leu Ile Lys Ser Ser Pro Thr Phe Leu Pro Thr Glu Asp  
 290 295 300  
 Ser Asp Phe Leu Met Ser Leu Asp Leu Glu Ser Arg Asp Gln Ala Trp  
 305 310 315 320  
 Ser Pro Lys Thr Cys Asp Ile Val Ile Glu Gly Ser Gln Ser Pro Thr  
 325 330 335  
 Ser Pro Ala Ser Ser Pro Lys Pro Gly Ser Lys Ala Gly Ser Gln  
 340 345 350  
 Glu Ala Glu Val Gly Ser Asp Gly Glu Arg Val Ala Gln Thr Pro Asp  
 355 360 365  
 Ser Ser Asp Gly Gly Leu Ser Pro Ser Gly Glu Asp Glu Asp Glu Asp  
 370 375 380  
 Gln Leu Met Tyr Arg Leu Ser Tyr Gln Val Gln Gly Pro Arg Pro Val  
 385 390 395 400  
 Leu Gly Gly Ser Phe Leu Gly Pro Pro Leu Pro Gly Ala Ser Ile Gln  
 405 410 415  
 Leu Pro Ser Cys Leu Val Leu Asn Ser Leu Gln Gln Glu Leu Gln Lys  
 420 425 430  
 Asp Lys Glu Ala Met Ala Leu Ala Asn Ser Val Gln Gly Cys Leu Ile  
 435 440 445  
 Arg Lys Cys Leu Phe Arg Asp Gly Lys Gly Gly Val Phe Val Cys Ser  
 450 455 460  
 His Gly Arg Ala Lys Met Glu Gly Asn Ile Phe Arg Asn Leu Thr Tyr  
 465 470 475 480  
 Ala Val Arg Cys Ile His Asn Ser Lys Ile Ile Met Leu Arg Asn Asp  
 485 490 495  
 Ile Tyr Arg Cys Arg Ala Ser Gly Ile Phe Leu Arg Leu Glu Gly Gly  
 500 505 510  
 Gly Leu Ile Ala Gly Asn Asn Ile Tyr His Asn Ala Glu Ala Gly Val  
 515 520 525  
 Asp Ile Arg Lys Lys Ser Asn Pro Leu Gln Ile Gly Asn Pro Arg Ala  
 530 535 540  
 Glu Phe Leu Ala Ser Arg Ala  
 545 550

&lt;210&gt; 4821

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4821

ggccgcgtgg aggtgctgac cgatgccgga gggtgggtgc tgattgaccg gagcggccgt  
 60  
 cactttggta caatcctcaa ttacctgcgg gatgggtctg tgccactgcc ggagagtacg  
 120  
 agagaactgg gggagctgct gggcgaagca cgctactacc tggcgcaggg cctgattgag  
 180  
 gactgccagc tggcgtgca gcaaaaaagg gagacgctgt ccccgctgtg cctcatcccc  
 240

atggtgacat ctccccggga ggagcagcag ctcttgcca gcacctcaa gcccgtggtg  
 300  
 aagctcctgc acaaccgcag taacaacaag tactctaca ccagcacttc agatgacaac  
 360  
 ctacttaaga acatcgagct gtctgacaag ctggccctgc gcttcacagg gcggctactc  
 420  
 ttctcaagg atgtcctggg ggacgagatc tgctgctggt ctttctacgg gcagggccgc  
 480  
 aaaatcgccg aggtgtgctg cacctccatt gtctatgcta cggagaagaa gcagaccaag  
 540  
 gtcagagggg ctccagagcc tatgttgggg gctgggggtg gccac  
 585

<210> 4822

<211> 195

<212> PRT

<213> Homo sapiens

<400> 4822

Gly	Arg	Val	Glu	Val	Leu	Thr	Asp	Ala	Gly	Gly	Trp	Val	Leu	Ile	Asp
1				5					10					15	
Arg	Ser	Gly	Arg	His	Phe	Gly	Thr	Ile	Leu	Asn	Tyr	Leu	Arg	Asp	Gly
			20					25					30		
Ser	Val	Pro	Leu	Pro	Glu	Ser	Thr	Arg	Glu	Leu	Gly	Glu	Leu	Leu	Gly
			35				40					45			
Glu	Ala	Arg	Tyr	Tyr	Leu	Val	Gln	Gly	Leu	Ile	Glu	Asp	Cys	Gln	Leu
	50					55					60				
Ala	Leu	Gln	Gln	Lys	Arg	Glu	Thr	Leu	Ser	Pro	Leu	Cys	Leu	Ile	Pro
65					70					75					80
Met	Val	Thr	Ser	Pro	Arg	Glu	Glu	Gln	Gln	Leu	Leu	Ala	Ser	Thr	Ser
				85					90					95	
Lys	Pro	Val	Val	Lys	Leu	Leu	His	Asn	Arg	Ser	Asn	Asn	Lys	Tyr	Ser
			100					105					110		
Tyr	Thr	Ser	Thr	Ser	Asp	Asp	Asn	Leu	Leu	Lys	Asn	Ile	Glu	Leu	Phe
			115				120					125			
Asp	Lys	Leu	Ala	Leu	Arg	Phe	His	Gly	Arg	Leu	Leu	Phe	Leu	Lys	Asp
			130				135					140			
Val	Leu	Gly	Asp	Glu	Ile	Cys	Cys	Trp	Ser	Phe	Tyr	Gly	Gln	Gly	Arg
145					150					155					160
Lys	Ile	Ala	Glu	Val	Cys	Cys	Thr	Ser	Ile	Val	Tyr	Ala	Thr	Glu	Lys
				165					170					175	
Lys	Gln	Thr	Lys	Val	Arg	Gly	Ala	Pro	Glu	Pro	Met	Leu	Gly	Ala	Gly
			180				185							190	
Gly	Gly	His													
			195												

<210> 4823

<211> 1984

<212> DNA

<213> Homo sapiens

<400> 4823

nggtttttgt tttttgagcc gcaccccgcg gaggcgagga agcagcagcc gcagcacagc  
 60

agcagctcca atggcgtaa aatggagaat gatgaatcag caaaagaaga gaaatctgac  
 120  
 ttaaaggaaa aatctacagg aagtaagaag gccaatagat ttcaccccta ttcaaaagac  
 180  
 aagaattcgg gcaactggaga aaagaagggc ccaaatcgta acagagtttt cattagcaac  
 240  
 atcccatatg acatgaaatg gcaagctatt aaagatctaa tgagagagaa agttggtgag  
 300  
 gttacatacg tggagctctt taaggatgag gaaggaaaat caaggggttg tgggtggtt  
 360  
 gaattcaaag atgaagaatt tgaagaaa gccctagaaa ctatgaacaa atatgatctt  
 420  
 agtgaagac cccttaatat taaaggagat cctgatggag aaaatgctcg tagggcattg  
 480  
 cagcgaacag gaggatcatt tccaggagga cagtccttg atatgggac agggttgatg  
 540  
 aatttaccac ctccatact caataatcca aacattctc ctgaagtcac cagtaatttg  
 600  
 caggccggta gacttggtt cacaattttt gttgccaatc ttgacttcaa agttggttg  
 660  
 aagaagctaa aggaagtgtt cagcatagct ggaactgtga agcgggcaga tattaagaa  
 720  
 gacaaagatg gcaagagcag aggaatggg actgtcactt ttgagcaagc aattgaagca  
 780  
 gttcaagcaa tttctatgtt caatgggag tttttatttg atagacctat gcatgtgaaa  
 840  
 atggatgaca agtctgttcc tcatgaagag taccgttcac ctgatggtaa aacaccacaa  
 900  
 ttaccacgtg gtcttgagg cattgggatg ggacttggtc cgggtggaca gcctattagt  
 960  
 gccagccagt tgaacatagg tggagtaatg ggaaatttag gtccaggttg tatgggaatg  
 1020  
 gatggtccag gttttggagg aatgaataga attggaggag gaatagggtt tgggtggtctg  
 1080  
 gaagcaatga atagcatggg aggatttga ggagttggc gaatgggaga gctgtaccgt  
 1140  
 ggtgcatga ctagtagcat ggagcgagat ttcggacgtg gtgatattgg aataaatcga  
 1200  
 gcctttggcg attccttttg tagacttggc agtgcaatga ttggagggat tacaggaaga  
 1260  
 ataggatctt ctaacatggg tccagtagga tctggaataa gtggtggaat gggtagcatg  
 1320  
 aacagtgtga ctggaggaat ggggatggga ctggaccgga tgagttccag ctttgataga  
 1380  
 atgggaccag gtataggagc tatactggaa aggagcatcg atatggatcg aggattttta  
 1440  
 tcgggtccaa tgggaagcgg aatgagagag agaataggct ccaaaggcaa ccagatatct  
 1500  
 gtcagaaatc taccttttga cttgacttgg cagaaactaa aagagaaatt cagtcagtgt  
 1560  
 ggtcatgtaa tgtttgcaga aataaaaatg gagaatggaa agtcaaaagg ctgtggaaca  
 1620  
 gtcagatttg actccccaga atcagctgaa aaagcctgca gaataatgaa tggcataaaa  
 1680



atcagtggca gagaaattga tgttcgcttg gatcgtaatg cataatttca agccatgggt  
 1740  
 ggaacattcc tacatctgtt ttgctgaatc tcctagtaaa agtcattttt ttaaagtaat  
 1800  
 attgtatgct tacaaaagct gtaaaaatga acttttataaa ctcccaccag cttttaacag  
 1860  
 gtataatggg aaaaatatac tgtaaatttt tggtaatctc aagtttgggt ttttaaagac  
 1920  
 agcaagtctg gtcattcagt ttaaataaat gggataactg gtttttaatg aaataagcca  
 1980  
 tttt  
 1984

<210> 4824

<211> 547

<212> PRT

<213> Homo sapiens

<400> 4824

Met	Glu	Asn	Asp	Glu	Ser	Ala	Lys	Glu	Glu	Lys	Ser	Asp	Leu	Lys	Glu
1				5					10					15	
Lys	Ser	Thr	Gly	Ser	Lys	Lys	Ala	Asn	Arg	Phe	His	Pro	Tyr	Ser	Lys
			20					25					30		
Asp	Lys	Asn	Ser	Gly	Thr	Gly	Glu	Lys	Lys	Gly	Pro	Asn	Arg	Asn	Arg
		35					40					45			
Val	Phe	Ile	Ser	Asn	Ile	Pro	Tyr	Asp	Met	Lys	Trp	Gln	Ala	Ile	Lys
	50				55				60						
Asp	Leu	Met	Arg	Glu	Lys	Val	Gly	Glu	Val	Thr	Tyr	Val	Glu	Leu	Phe
65				70				75					80		
Lys	Asp	Ala	Glu	Gly	Lys	Ser	Arg	Gly	Cys	Gly	Val	Val	Glu	Phe	Lys
			85					90					95		
Asp	Glu	Glu	Phe	Val	Lys	Lys	Ala	Leu	Glu	Thr	Met	Asn	Lys	Tyr	Asp
			100				105						110		
Leu	Ser	Gly	Arg	Pro	Leu	Asn	Ile	Lys	Glu	Asp	Pro	Asp	Gly	Glu	Asn
	115					120						125			
Ala	Arg	Arg	Ala	Leu	Gln	Arg	Thr	Gly	Gly	Ser	Phe	Pro	Gly	Gly	His
	130				135						140				
Val	Pro	Asp	Met	Gly	Ser	Gly	Leu	Met	Asn	Leu	Pro	Pro	Ser	Ile	Leu
145				150				155						160	
Asn	Asn	Pro	Asn	Ile	Pro	Pro	Glu	Val	Ile	Ser	Asn	Leu	Gln	Ala	Gly
			165					170					175		
Arg	Leu	Gly	Ser	Thr	Ile	Phe	Val	Ala	Asn	Leu	Asp	Phe	Lys	Val	Gly
		180					185					190			
Trp	Lys	Lys	Leu	Lys	Glu	Val	Phe	Ser	Ile	Ala	Gly	Thr	Val	Lys	Arg
	195					200					205				
Ala	Asp	Ile	Lys	Glu	Asp	Lys	Asp	Gly	Lys	Ser	Arg	Gly	Met	Gly	Thr
	210					215					220				
Val	Thr	Phe	Glu	Gln	Ala	Ile	Glu	Ala	Val	Gln	Ala	Ile	Ser	Met	Phe
225				230				235						240	
Asn	Gly	Gln	Phe	Leu	Phe	Asp	Arg	Pro	Met	His	Val	Lys	Met	Asp	Asp
			245					250					255		
Lys	Ser	Val	Pro	His	Glu	Glu	Tyr	Arg	Ser	Pro	Asp	Gly	Lys	Thr	Pro
		260					265					270			
Gln	Leu	Pro	Arg	Gly	Leu	Gly	Gly	Ile	Gly	Met	Gly	Leu	Gly	Pro	Gly

275                                      280                                      285  
 Gly Gln Pro Ile Ser Ala Ser Gln Leu Asn Ile Gly Gly Val Met Gly  
 290                                      295                                      300  
 Asn Leu Gly Pro Gly Gly Met Gly Met Asp Gly Pro Gly Phe Gly Gly  
 305                                      310                                      315                                      320  
 Met Asn Arg Ile Gly Gly Gly Ile Gly Phe Gly Gly Leu Glu Ala Met  
 325                                      330                                      335  
 Asn Ser Met Gly Gly Phe Gly Gly Val Gly Arg Met Gly Glu Leu Tyr  
 340                                      345                                      350  
 Arg Gly Ala Met Thr Ser Ser Met Glu Arg Asp Phe Gly Arg Gly Asp  
 355                                      360                                      365  
 Ile Gly Ile Asn Arg Ala Phe Gly Asp Ser Phe Gly Arg Leu Gly Ser  
 370                                      375                                      380  
 Ala Met Ile Gly Gly Ile Thr Gly Arg Ile Gly Ser Ser Asn Met Gly  
 385                                      390                                      395                                      400  
 Pro Val Gly Ser Gly Ile Ser Gly Gly Met Gly Ser Met Asn Ser Val  
 405                                      410                                      415  
 Thr Gly Gly Met Gly Met Gly Leu Asp Arg Met Ser Ser Ser Phe Asp  
 420                                      425                                      430  
 Arg Met Gly Pro Gly Ile Gly Ala Ile Leu Glu Arg Ser Ile Asp Met  
 435                                      440                                      445  
 Asp Arg Gly Phe Leu Ser Gly Pro Met Gly Ser Gly Met Arg Glu Arg  
 450                                      455                                      460  
 Ile Gly Ser Lys Gly Asn Gln Ile Phe Val Arg Asn Leu Pro Phe Asp  
 465                                      470                                      475                                      480  
 Leu Thr Trp Gln Lys Leu Lys Glu Lys Phe Ser Gln Cys Gly His Val  
 485                                      490                                      495  
 Met Phe Ala Glu Ile Lys Met Glu Asn Gly Lys Ser Lys Gly Cys Gly  
 500                                      505                                      510  
 Thr Val Arg Phe Asp Ser Pro Glu Ser Ala Glu Lys Ala Cys Arg Ile  
 515                                      520                                      525  
 Met Asn Gly Ile Lys Ile Ser Gly Arg Glu Ile Asp Val Arg Leu Asp  
 530                                      535                                      540  
 Arg Asn Ala  
 545

&lt;210&gt; 4825

&lt;211&gt; 2380

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4825

nnagagaatt cggcacgggt ggagaagcaa ctgcagcaag ctctggagga gggtaagcag  
 60  
 ggccggcggg gcctggggtc gtcgcgacca ggcagtgcag accggcttcg tcagcyccat  
 120  
 ccggcccttg gggcbkcagc tgggcgcccg gccggccgct gtctgcagcc ctttgagcgc  
 180  
 cgtkctgggc tcgccgckc gtcctccggc cggcccccct gcgccctccg cggccagcct  
 240  
 ctcgtcgtcc tcacactcca cctccaccac ctattctctg tcggcccgcct tcatgcccgc  
 300  
 caccatctgg tcgttctcgc acgnccgccc gtcggggccc ggactggagc ccactctggt  
 360

gcaagggcct ggggtgtmgt ggggtgcaccc ggatgggggtg ggcgtccaga tcgacaccat  
420  
cacgcccag atccgcgctc tctacaacgt gctggccaaa gtgaagcggg agcgggacga  
480  
gtacaagcgg aggtgggaag aggagtacac ggtgcggatc cagctgcaag accgtgtaaa  
540  
tgagctccag gaggaagccc aggaggctga tgcctgccag gaggagctgg cactgaagggt  
600  
ggaacagttg aaggctgagc tgggtggtctt caaggggctc atgagtaaca acctgtcggg  
660  
gctggacacc aagatccagg agaaagccat gaaggtggat atggacatct gcccccgc  
720  
cgacatcacc gccaaagctct gcgatgtggc tcagcagcgc aactgcgagg acatgatcca  
780  
gatgttccag aagaagctgg tcccatccat gggggggcgg aagcgggagc gcaaggctgc  
840  
cgtcaggag gacacctccc tgtcggagag tgagggggccc gccagcccga tggggatgag  
900  
gaggagagca cagccctcag catcaacgag gagatgcagc gcatgctcaa ccagctgagg  
960  
gagtatgatt ttgaggacga ctgtgacagc ctgacttggg aggagactga ggagaccctg  
1020  
ctgctttggg aggatttctc aggctatgcc atggcagctg cagaggccca gggagagcag  
1080  
gaagatagcc tggagaagggt gattaaagat acggagtccc tgttcaaaac ccgggagaag  
1140  
gagtatcagg agaccattga ccagatagag ctggagttgg ccacggccaa gaacgacatg  
1200  
aaccggcacc tgcacgagta catggagatg tgcagcatga agcgcggcct ggacgtgcag  
1260  
atggagacct gccgccggct catcaccag tctggagacc gaaagtctcc tgctttcact  
1320  
gcggtcccgc ttagcgaccc gccgccgccg ccaagcgagg ctgaggactc cgatcgcgat  
1380  
gtctcatctg acagctccat gagatagaga cctgcctccc ccttgcaccc gaggccctcg  
1440  
cagcagggag ctcagcgagg cagaggggtg ggctgcacag aggggaacat cagctgcagc  
1500  
tctgcaccag gccggtccct ggggactggg gcgctcctcc ctcaggcttt ctccctcagt  
1560  
cttggttctt ccagggtctt ggggtgtctg gagctaggct tggccctacc attctggggc  
1620  
catttccacc acagttgggg ctctcctgcc ttcacgcgtg ggtgtctgct acttccccat  
1680  
ctttaaaatg ctgccagagc gattgcggcc cctcaccttg tccacgtatc aggaatgtga  
1740  
atgtgggacc tttcctccat ccctgttgtc cggagccagc tcaactgtctt ccacactggt  
1800  
gctaactggc ccaggcactg gagtgggaata gaatgcagct ggaggctacg catggcctct  
1860  
gcagcacacg cagctggaga gggcttctgt ccctgtcagc ggcagagggc gttggggctg  
1920  
gccggggcac cttgtccctg ctatggtcca catgctcacg ctgtccacct gccagggtga  
1980

gtgtatgtgg ctgtggccct cctcgtgga ggtgccgtgc tttaaagagg ccttagtgcc  
 2040  
 cgggatgggc acagtgtttt gaaggaggt gggagctctt gctctcctgg tcaactgcaga  
 2100  
 atgacagaga aggtgaagct ccatgcatgt gtgcgcgggt gtatgtgcgc tcagggctctc  
 2160  
 tgtttaagta tcagctaaag atgtgcttcc tccgtgtctg tcatacactg agaccaacag  
 2220  
 gctacagtgt ccctgattct tggaaaagcc tggagaagct ggggagatgc ggttcacaat  
 2280  
 gcctcggat agggaggctgt gttgagctga cattcaaag gattctttaa taataatgaa  
 2340  
 actggcgagt atttattgtg caaaaaaaaa aaaaaaaaaa  
 2380

&lt;210&gt; 4826

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4826

Leu	Glu	Lys	Val	Ile	Lys	Asp	Thr	Glu	Ser	Leu	Phe	Lys	Thr	Arg	Glu
1				5				10						15	
Lys	Glu	Tyr	Gln	Glu	Thr	Ile	Asp	Gln	Ile	Glu	Leu	Glu	Leu	Ala	Thr
			20					25						30	
Ala	Lys	Asn	Asp	Met	Asn	Arg	His	Leu	His	Glu	Tyr	Met	Glu	Met	Cys
		35					40					45			
Ser	Met	Lys	Arg	Gly	Leu	Asp	Val	Gln	Met	Glu	Thr	Cys	Arg	Arg	Leu
	50					55					60				
Ile	Thr	Gln	Ser	Gly	Asp	Arg	Lys	Ser	Pro	Ala	Phe	Thr	Ala	Val	Pro
65					70					75				80	
Leu	Ser	Asp	Pro	Pro	Pro	Pro	Pro	Ser	Glu	Ala	Glu	Asp	Ser	Asp	Arg
				85					90					95	
Asp	Val	Ser	Ser	Asp	Ser	Ser	Met	Arg							
				100				105							

&lt;210&gt; 4827

&lt;211&gt; 6277

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4827

ntaattaaca ccatcggttcc agcctaccac attgtagttt ggcaggccag gctctgcatt  
 60  
 ccaagggggc aggtgctggt tgetccagag gccttgagga gaaatctagg ggcagaccag  
 120  
 gtgtgtgctt cagctccaag tttctcttgc tttagcagca aaatgcggcc tctcatctct  
 180  
 accaaagcaa cagtggactc gtacccctcc ccacctccca agtagttcag gggatggggg  
 240  
 gggatgtgcy aataaaaaata aagatgagtc aagaccagca tcttcaaatt aacaaactgt  
 300  
 aattgttttc ccaaagatac atttttttca tacacatcca tcatacactg taacaaaaaa  
 360

aagcagtgtgta catgaaataa gagaaaataa attaaaaatc catagcatag gtaaggaggc  
420  
tctagtctgg agcacagctg agtttccagc aatataagga ggctcgaaag tttcttttat  
480  
aagaatgcct gctagcaagg gttccagcaa ggtgggtggg tggctctgtaa gtcagtcttg  
540  
agtacttgaa acagttctgt gtttgttttt tttccttagc gtttagaata gccatcattg  
600  
tcctgcaata ggcagagcta tcacgtccag gaaaaatgag ggaggggaacc acagaggcag  
660  
cgtgagatcc aaatacagca ttcaaaggta attgggtccag tgggtgcctgg ggaggggagga  
720  
aggggtgatac tccaggggta gccgtcttct tttgggggtg tgtaccagcc gttttttttc  
780  
gtggatctgc accaaggact tgtaggactg ctgtgctctt gtcagactgt attgagattt  
840  
gttggtcca aactgcactc gtgctttccc cttcaccagt gtggcactga tctgcatgat  
900  
gaccgattct attgagtagg cactgctcca gccctgtttg gtgagaagt ccatgcagat  
960  
ggcccccccg ccagaacat accctccaga gaggactgga gacacaaccc tgacaaatgg  
1020  
tgggtcaaag ggaaagtatt ctttaaagga aaagttaagt agaataagt cggctccttc  
1080  
tttctctttg aggatctgga gatcggtgtg caaagcgctg tcctgggtcaa ctttgaggag  
1140  
tttaacattc caatcataca gactgtcatt cacgagttcc actgaataaa tccctgtttt  
1200  
ataactctgt gatcggtata tatccctgag ctctttcacc agccggtcag tggcctgcac  
1260  
cgagccagac actgcacat ttaaatgggc ttgcctttga gtctttttta tttctcttaa  
1320  
tattgccaaa ttttcttttt caattccttc atcctctgac tttttccac taataggctc  
1380  
ttcttccttc atctcatagt gatctaagtc ttctatatct tcagccatct cttcttcttc  
1440  
ttctctttct tctgaagtca cttcttctgt tgtcccatc tgaccctggg gtagtggtg  
1500  
atctagcatc tcaacatcca ggtgcttagg aagggtatat aaactgcaga gttcacatat  
1560  
caaccacttc aattgctgac gaagcaaatt gttgttctta gtatcttcta gacgttccag  
1620  
aactgatgtc agatttggtt cttcagaatc cacaacccat atcggtgaag aagatggata  
1680  
ggattccgtg atgttgagcagg ggcagctgag tggcgccggc agcgagtgcg ggctgccctg  
1740  
ctgcggcacc aggaactggc agtgcagctc gtccagcttc caactgacga tgcggaatcg  
1800  
ctcgtgggtc ttgtcgaaga tggacgccag gaacttcagc tcggccttga gccctgacac  
1860  
ggacatcttc cctcatctc cggcgggagg ggcgcggaag gggagccggg cgcggaaggg  
1920  
gagccggggc cggagccgcc gtcacggccg cgaccgcccc gcgggcccgc ctgggcccgc  
1980

ctctccgcct cgtcgagcgc tgctggaaaa tggcgagggg gcgcggaagc ctcggcgtct  
2040  
gggagcccg cgcgcgagaa gggctgcggg ttagggggcc ggcgcccgcg gttcaggatt  
2100  
ccagaattgg aaataacggg agggaggacc tgggccagct tcccttcctc aaataaggaa  
2160  
attgacacct ggcgtgagaa ggggttttgc catgttcgct aggctggctc caaactcatg  
2220  
gattcaaggg gactgcccgc ctggacctcc caaagtactg agattagtag ctgtggagaa  
2280  
gaaacaatgg attccttaga ccatatgctg acagatcctc tggaacttgg tccgtgtgga  
2340  
gatggccatg gcacgcgcac catggaggat tgcctcctgg gaggcaccag agttagtctg  
2400  
cccaggagcc ttctggagga tcctgagatc ttctttgatg ttgtcagcct ctcaacatgg  
2460  
caggaagtgt taagtgattc tcaacgtgaa cacctccagc agtttctgcc ccagtttctc  
2520  
gaagacagtg ctgagcagca gaatgaactc atcttagcct tgttcagtgg ggagaacttc  
2580  
cgcttttgaa accctctgca cattgcccag aagcttttcc gagacggaca ctttaacccc  
2640  
gaggtgggtc agtaccggca gttatgcttc aagtcacagt acaagcgcta cctcaactcc  
2700  
cagcagcagt atttccatcg gctgctgaag caaattcttg cttcccggag tgatctgctg  
2760  
gagatggccc ggcggagtgg ccccgccctt cccttcgggc agaaacgccc ttcaccatcc  
2820  
cgcacacctg aggagcggga gtggcggacc cagcagcgct acttgaaggt cttaagggaa  
2880  
gtgaaagagg agtggtgga cacagccctg tcatctgatg aagaggatct cagctcatgg  
2940  
cttccgagct ctccagcacg ttctcctagt cctgcggtgc ccctgcgggt ggtgcccaca  
3000  
ctttcaacca cggatatgaa aactgcagat aaagtagaac tgggggacag tgacctgaag  
3060  
ataatgttaa agaagcacca cgagaagcgg aaacatcagc cagatcaccg ggaccttttg  
3120  
acaggggacc tgactctcaa tgacatcatg actcgagtaa atgctggcag gaagggctct  
3180  
ctggcagcct tatatgactt ggctgtcctt aaaaaaagg ttaaggaaaa agaggaaaag  
3240  
aagaagaaga aaataaaaac gatcaaatca gaggcagagg acctggccga gccgctaagc  
3300  
agtactgaag gggtcgcacc tctctcacag gccccctc cgctggcaat tcctgctatc  
3360  
aaggaagagc cccttgaaga cctcaagcct tgccttgga tcaatgaaat atcttccagc  
3420  
ttcttctctc ttctattaga gatcttgctg ctggagagtc aggctagcct tcctatgcta  
3480  
gaggagcgag ttttggattg gcagtcacg ccagccagct ccctcaacag ctggttctct  
3540  
gcggccccc actgggctga gttggtacta ccagccctgc agtatcttgc tggagaaagt  
3600

cgagctgttc cttccagttt ctctccattt gttgaattca aagagaaaac ccagcagtgg  
3660  
aagttgcttg gccaatccca agataatgaa aaggaattag ctgccctctt ccagctatgg  
3720  
ctagagacca aagatcaggc cttctgtaag caagaaaatg aagacagctc agatgccaca  
3780  
acacctgtcc ctgggtaag aactgactat gtgggtgcgtc ccagcacggg ggaggagaaa  
3840  
cgggtttttc aggagcagga gcgttacagg tatagccaac ccataaggc gttcaccttt  
3900  
cgcatgcacg gctttgagtc tgtggtgggg ccagtgaagg gcgtgtttga caaggagacc  
3960  
tcgtcaaca aggtcggga gcactccctg ctgcgctccg accggcctgc ctacgtcacc  
4020  
attctgtctc ttgttcggga cgctcggct cgactgccta atggagaagg cacacgggca  
4080  
gagatctgtg aactgcttaa ggactcccag tttcttgac cagatgtcac cagcactcag  
4140  
gtaaatacag tagtgagtgg tgcactggat cggctacatt acgaaaaga tccctgtgtg  
4200  
aaatacgaca ttggacgaaa gctgtggatc tacctgcac gtgaccggag tgaagaagag  
4260  
tttgagcggg ttaccaagc acaagcagct gcagctaaag ccagaaaagc tcttcagcaa  
4320  
aaacccaagc ccccatccaa ggtgaagtcc agtagcaagg agagctccat aaaggtcctt  
4380  
agcagtggcc cttctgagca gagccagatg agcctcagtg actccagtat gccaccacc  
4440  
ccagtccacac ctgtaacccc caccacacca gcattgccg ccattcccat ctcccctcca  
4500  
cctgtatcgg cagtgaacaa aagcgccct tccacagtct cagaaccagc taagtctagc  
4560  
tcgggtgttc ttctggtgtc ttcaccaaca atgccacatc tgggaacaat gctttcccca  
4620  
gcttccagcc agactgcacc cagttctcag gctgccgcc gggctcgtgag ccactctggc  
4680  
tctgctggac tgtctcaggt gcgagtgggt gcccagccta gccttctctgc tgttccccag  
4740  
cagtcgggag ggccggcaca gacattgcca cagatgccag caggaccgca gatccgggtt  
4800  
ccagccactg ccacacagac caaagtagtg cccagacag taatggccac tgtgcccgtc  
4860  
aaagcgcaga ctacggcagc cactgtgcag cggcctggac ccgggcagac agggctcacg  
4920  
gtgacaagtc tccctgccac agccagccct gtgagtaagc cagccacgag ttctcctggg  
4980  
acctctgtc ccagtgcctc cacggctgcc gtcattcaaa atgtcacagg acagaacatc  
5040  
atcaagcagg tggcaatcac tgggcagctt ggtgtgaagc cccaaacagg caacagcatt  
5100  
ccactcacag ccactaactt ccgcatccag ggtaaggatg tattgctct gccgcccctc  
5160  
tccatcacca cagatgccaa gggccagacg gttctgcgaa tcaactccgga catgatggcc  
5220

acattggcca agteccaggt taccacagtc aaattgaccc aggacctctt cgggacagga  
 5280  
 ggcaacacta caggcaaagg catctctgcc accttacacg tcaattccaa tccagtacat  
 5340  
 gcagctgata gccctgccaa ggccagttca gccagtgccc ctccatccac tccaacaggt  
 5400  
 accactgtgg tcaaagtgc tcttgacctc aagccaacag aagcctcaag ttcggctttt  
 5460  
 cgcttgatgc cagctcttgg cgtgagtgtg gctgaccaga agggaaaaag cacagtggcc  
 5520  
 tcttcagaag caaaaccagc tgccacgacg cgcacgtgc agggactggg agtgatgcct  
 5580  
 cccaaagcag gccagaccat caccgttgca acccagcca agcaaggggc ctcggtggcc  
 5640  
 agtgggtctg gaactgtcca tacttcagcg gtgtccttac ccagtatgaa tgctgctgtg  
 5700  
 tccaagactg tagctgtggc ttctggggct gcaagcacc ccatcagcat cagcacagga  
 5760  
 gccccaccg tgccgcaggt cctgtcagc accacgggtg tgtccacgtc ccaggctggg  
 5820  
 aagttgccta caggatcac agttcccctc tctgtgatca gccagccaat gaagggcaag  
 5880  
 agcgtggtca cagccccat catcaaaggc aacctggag ccaacctcag tgggttgggc  
 5940  
 cgcaacatca tctcacaac tatgccagca ggactaagc tcattgctgg caataagcct  
 6000  
 gtagtttcc tcaactgtca gcagttgcag cagcttcagc agcaaggtca ggccacacag  
 6060  
 gtgcgcatcc agactgtccc tgcacccnat ctccaacagg gaacagcttc tggctcctcc  
 6120  
 aaagcagtct ccaactgttg tgtgactaca gtcctgtctc ctaaacaggc acctgagcaa  
 6180  
 caatgattat gagagaggat gggcttccgt gaaagaccat gcctgggtctg tcttggtga  
 6240  
 gaagggacca gggaggttgc atcattatc taagctt  
 6277

&lt;210&gt; 4828

&lt;211&gt; 1322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4828

Met	Asp	Ser	Arg	Gly	Leu	Pro	Ala	Trp	Thr	Ser	Gln	Ser	Thr	Glu	Ile
1				5					10					15	
Ser	Thr	Cys	Gly	Glu	Glu	Thr	Met	Asp	Ser	Leu	Asp	His	Met	Leu	Thr
			20					25				30			
Asp	Pro	Leu	Glu	Leu	Gly	Pro	Cys	Gly	Asp	Gly	His	Gly	Thr	Arg	Ile
			35				40				45				
Met	Glu	Asp	Cys	Leu	Leu	Gly	Gly	Thr	Arg	Val	Ser	Leu	Pro	Glu	Asp
			50			55					60				
Leu	Leu	Glu	Asp	Pro	Glu	Ile	Phe	Phe	Asp	Val	Val	Ser	Leu	Ser	Thr
65					70					75				80	
Trp	Gln	Glu	Val	Leu	Ser	Asp	Ser	Gln	Arg	Glu	His	Leu	Gln	Gln	Phe



Leu	Pro	Gln	Phe	Pro	Glu	Asp	Ser	Ala	Glu	Gln	Gln	Asn	Glu	Leu	Ile	
			100					105					110			
Leu	Ala	Leu	Phe	Ser	Gly	Glu	Asn	Phe	Arg	Phe	Gly	Asn	Pro	Leu	His	
		115					120					125				
Ile	Ala	Gln	Lys	Leu	Phe	Arg	Asp	Gly	His	Phe	Asn	Pro	Glu	Val	Val	
		130				135					140					
Lys	Tyr	Arg	Gln	Leu	Cys	Phe	Lys	Ser	Gln	Tyr	Lys	Arg	Tyr	Leu	Asn	
145					150					155					160	
Ser	Gln	Gln	Gln	Tyr	Phe	His	Arg	Leu	Leu	Lys	Gln	Ile	Leu	Ala	Ser	
				165					170						175	
Arg	Ser	Asp	Leu	Leu	Glu	Met	Ala	Arg	Arg	Ser	Gly	Pro	Ala	Leu	Pro	
			180					185					190			
Phe	Arg	Gln	Lys	Arg	Pro	Ser	Pro	Ser	Arg	Thr	Pro	Glu	Glu	Arg	Glu	
		195					200					205				
Trp	Arg	Thr	Gln	Gln	Arg	Tyr	Leu	Lys	Val	Leu	Arg	Glu	Val	Lys	Glu	
	210					215					220					
Glu	Cys	Gly	Asp	Thr	Ala	Leu	Ser	Ser	Asp	Glu	Glu	Asp	Leu	Ser	Ser	
225					230					235					240	
Trp	Leu	Pro	Ser	Ser	Pro	Ala	Arg	Ser	Pro	Ser	Pro	Ala	Val	Pro	Leu	
				245					250					255		
Arg	Val	Val	Pro	Thr	Leu	Ser	Thr	Thr	Asp	Met	Lys	Thr	Ala	Asp	Lys	
			260					265					270			
Val	Glu	Leu	Gly	Asp	Ser	Asp	Leu	Lys	Ile	Met	Leu	Lys	Lys	His	His	
		275					280					285				
Glu	Lys	Arg	Lys	His	Gln	Pro	Asp	His	Pro	Asp	Leu	Leu	Thr	Gly	Asp	
	290					295					300					
Leu	Thr	Leu	Asn	Asp	Ile	Met	Thr	Arg	Val	Asn	Ala	Gly	Arg	Lys	Gly	
305					310					315					320	
Ser	Leu	Ala	Ala	Leu	Tyr	Asp	Leu	Ala	Val	Leu	Lys	Lys	Lys	Val	Lys	
				325					330					335		
Glu	Lys	Glu	Glu	Lys	Lys	Lys	Lys	Lys	Ile	Lys	Thr	Ile	Lys	Ser	Glu	
			340					345					350			
Ala	Glu	Asp	Leu	Ala	Glu	Pro	Leu	Ser	Ser	Thr	Glu	Gly	Val	Ala	Pro	
		355					360					365				
Leu	Ser	Gln	Ala	Pro	Ser	Pro	Leu	Ala	Ile	Pro	Ala	Ile	Lys	Glu	Glu	
	370					375					380					
Pro	Leu	Glu	Asp	Leu	Lys	Pro	Cys	Leu	Gly	Ile	Asn	Glu	Ile	Ser	Ser	
385					390					395					400	
Ser	Phe	Phe	Ser	Leu	Leu	Leu	Glu	Ile	Leu	Leu	Leu	Glu	Ser	Gln	Ala	
				405					410					415		
Ser	Leu	Pro	Met	Leu	Glu	Glu	Arg	Val								

515 520 525  
 Thr Asp Tyr Val Val Arg Pro Ser Thr Gly Glu Glu Lys Arg Val Phe  
 530 535 540  
 Gln Glu Gln Glu Arg Tyr Arg Tyr Ser Gln Pro His Lys Ala Phe Thr  
 545 550 555 560  
 Phe Arg Met His Gly Phe Glu Ser Val Val Gly Pro Val Lys Gly Val  
 565 570 575  
 Phe Asp Lys Glu Thr Ser Leu Asn Lys Ala Arg Glu His Ser Leu Leu  
 580 585 590  
 Arg Ser Asp Arg Pro Ala Tyr Val Thr Ile Leu Ser Leu Val Arg Asp  
 595 600 605  
 Ala Ala Ala Arg Leu Pro Asn Gly Glu Gly Thr Arg Ala Glu Ile Cys  
 610 615 620  
 Glu Leu Leu Lys Asp Ser Gln Phe Leu Ala Pro Asp Val Thr Ser Thr  
 625 630 635 640  
 Gln Val Asn Thr Val Val Ser Gly Ala Leu Asp Arg Leu His Tyr Glu  
 645 650 655  
 Lys Asp Pro Cys Val Lys Tyr Asp Ile Gly Arg Lys Leu Trp Ile Tyr  
 660 665 670  
 Leu His Arg Asp Arg Ser Glu Glu Glu Phe Glu Arg Ile His Gln Ala  
 675 680 685  
 Gln Ala Ala Ala Ala Lys Ala Arg Lys Ala Leu Gln Gln Lys Pro Lys  
 690 695 700  
 Pro Pro Ser Lys Val Lys Ser Ser Ser Lys Glu Ser Ser Ile Lys Val  
 705 710 715 720  
 Leu Ser Ser Gly Pro Ser Glu Gln Ser Gln Met Ser Leu Ser Asp Ser  
 725 730 735  
 Ser Met Pro Pro Thr Pro Val Thr Pro Val Thr Pro Thr Thr Pro Ala  
 740 745 750  
 Leu Pro Ala Ile Pro Ile Ser Pro Pro Pro Val Ser Ala Val Asn Lys  
 755 760 765  
 Ser Gly Pro Ser Thr Val Ser Glu Pro Ala Lys Ser Ser Ser Gly Val  
 770 775 780  
 Leu Leu Val Ser Ser Pro Thr Met Pro His Leu Gly Thr Met Leu Ser  
 785 790 795 800  
 Pro Ala Ser Ser Gln Thr Ala Pro Ser Ser Gln Ala Ala Ala Arg Val  
 805 810 815  
 Val Ser His Ser Gly Ser Ala Gly Leu Ser Gln Val Arg Val Val Ala  
 820 825 830  
 Gln Pro Ser Leu Pro Ala Val Pro Gln Gln Ser Gly Gly Pro Ala Gln  
 835 840 845  
 Thr Leu Pro Gln Met Pro Ala Gly Pro Gln Ile Arg Val Pro Ala Thr  
 850 855 860  
 Ala Thr Gln Thr Lys Val Val Pro Gln Thr Val Met Ala Thr Val Pro  
 865 870 875 880  
 Val Lys Ala Gln Thr Thr Ala Ala Thr Val Gln Arg Pro Gly Pro Gly  
 885 890 895  
 Gln Thr Gly Leu Thr Val Thr Ser Leu Pro Ala Thr Ala Ser Pro Val  
 900 905 910  
 Ser Lys Pro Ala Thr Ser Ser Pro Gly Thr Ser Ala Pro Ser Ala Ser  
 915 920 925  
 Thr Ala Ala Val Ile Gln Asn Val Thr Gly Gln Asn Ile Ile Lys Gln  
 930 935 940  
 Val Ala Ile Thr Gly Gln Leu Gly Val Lys Pro Gln Thr Gly Asn Ser

945                      950                      955                      960  
 Ile Pro Leu Thr Ala Thr Asn Phe Arg Ile Gln Gly Lys Asp Val Leu  
                          965                      970                      975  
 Arg Leu Pro Pro Ser Ser Ile Thr Thr Asp Ala Lys Gly Gln Thr Val  
                          980                      985                      990  
 Leu Arg Ile Thr Pro Asp Met Met Ala Thr Leu Ala Lys Ser Gln Val  
                          995                      1000                      1005  
 Thr Thr Val Lys Leu Thr Gln Asp Leu Phe Gly Thr Gly Gly Asn Thr  
                          1010                      1015                      1020  
 Thr Gly Lys Gly Ile Ser Ala Thr Leu His Val Thr Ser Asn Pro Val  
 1025                      1030                      1035                      1040  
 His Ala Ala Asp Ser Pro Ala Lys Ala Ser Ser Ala Ser Ala Pro Ser  
                          1045                      1050                      1055  
 Ser Thr Pro Thr Gly Thr Thr Val Val Lys Val Thr Pro Asp Leu Lys  
                          1060                      1065                      1070  
 Pro Thr Glu Ala Ser Ser Ser Ala Phe Arg Leu Met Pro Ala Leu Gly  
                          1075                      1080                      1085  
 Val Ser Val Ala Asp Gln Lys Gly Lys Ser Thr Val Ala Ser Ser Glu  
                          1090                      1095                      1100  
 Ala Lys Pro Ala Ala Thr Ile Arg Ile Val Gln Gly Leu Gly Val Met  
 1105                      1110                      1115                      1120  
 Pro Pro Lys Ala Gly Gln Thr Ile Thr Val Ala Thr His Ala Lys Gln  
                          1125                      1130                      1135  
 Gly Ala Ser Val Ala Ser Gly Ser Gly Thr Val His Thr Ser Ala Val  
                          1140                      1145                      1150  
 Ser Leu Pro Ser Met Asn Ala Ala Val Ser Lys Thr Val Ala Val Ala  
                          1155                      1160                      1165  
 Ser Gly Ala Ala Ser Thr Pro Ile Ser Ile Ser Thr Gly Ala Pro Thr  
                          1170                      1175                      1180  
 Val Arg Gln Val Pro Val Ser Thr Thr Val Val Ser Thr Ser Gln Ala  
 1185                      1190                      1195                      1200  
 Gly Lys Leu Pro Thr Arg Ile Thr Val Pro Leu Ser Val Ile Ser Gln  
                          1205                      1210                      1215  
 Pro Met Lys Gly Lys Ser Val Val Thr Ala Pro Ile Ile Lys Gly Asn  
                          1220                      1225                      1230  
 Leu Gly Ala Asn Leu Ser Gly Leu Gly Arg Asn Ile Ile Leu Thr Thr  
                          1235                      1240                      1245  
 Met Pro Ala Gly Thr Lys Leu Ile Ala Gly Asn Lys Pro Val Ser Phe  
                          1250                      1255                      1260  
 Leu Thr Ala Gln Gln Leu Gln Gln Leu Gln Gln Gln Gly Gln Ala Thr  
 1265                      1270                      1275                      1280  
 Gln Val Arg Ile Gln Thr Val Pro Ala Ser Xaa Leu Gln Gln Gly Thr  
                          1285                      1290                      1295  
 Ala Ser Gly Ser Ser Lys Ala Val Ser Thr Val Val Val Thr Thr Ala  
                          1300                      1305                      1310  
 Pro Ser Pro Lys Gln Ala Pro Glu Gln Gln  
                          1315                      1320

&lt;210&gt; 4829

&lt;211&gt; 1605

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4829

cccgagagc gaggacgacg tgaaggcgga gtggcgcccg gcgaggtagc gccaggcgag  
60  
ctggagacca tggccaaaat ggaggtgaaa acctcacttc tggacaatat gattggagtt  
120  
ggggatatgg ttctttttaga acctctcaat gaggagacct tcatcaacaa cctcaagaag  
180  
cgctttgacc acagtgaaat atacacttac attggaagtg tggttatata tgtaaccca  
240  
tatcggctct taccatttta ttcaccagag aaagtggaag aatacaggaa cagaaatttt  
300  
tatgaactga gccctcacat ctttgccctt tcggatgaag catacagatc cctacgagat  
360  
caagataagg accaatgtat tctcattact ggggaaagtg gagcaggaaa aacagaggcc  
420  
agtaagcttg tcatgtccta tgtggcagct gtttgtggaa aaggagcaga agttaatcaa  
480  
gttaaagaac agcttttaca gtccaacccg gtccctggaag cttttggaaa tgccaaaact  
540  
gtaaggaatg acaactctc tagatttggc aaatatatgg atattgaatt tgactttaaa  
600  
ggcgatccac taggaggagt aataagtaac tatcttttag agaaatctcg ggttgtaaa  
660  
cagccaagag gtgaaagaaa cttccatgtg ttctatcagc tgetctctgg tgctctgaa  
720  
gagctcctca ataaacttaa gcttgagagg gatttcagca ggtataacta cctgagtctg  
780  
gattcggcca aagtgaatgg agtggatgat gcagcaaatt ttagaaccgt gcggaatgcc  
840  
atgcagattg tgggctttat ggatcatgaa gctgagtctg tcttggcggg ggtggcagca  
900  
gtgttgaaac tggggaacat tgagttcaag cccgaatctc gagtgaatgg tctagatgaa  
960  
agcaaatca aagataaaaa tgagttaaaa gaaatttgtg aattgaccgg cattgatcaa  
1020  
tcagttctag aacgagcatt cagtttccga acagttgagg ccaaacagga gaaagtttca  
1080  
actacactga atgtggctca ggcttattat gcccgtagt ctctggctaa aaacctctac  
1140  
agcaggttgt tttcatgggt ggtaaatcga atcaatgaaa gcattaaggc acaaacaaaa  
1200  
gtgagaaaga aggtcatggg tgttctggac atttatggct ttgagatttt cgaggacaac  
1260  
agctttgagc agttcattat taattattgt aacgaaaagc tgcaacaaat cttcattgaa  
1320  
cttactctta aagaagagca ggaggagtat atacgggagg atatagaatg gactcacatt  
1380  
gactacttca ataatgctat catttgtgac ctaatagaaa ataacacaaa tggaatcctg  
1440  
gccatgttgg atgaagagt cctcagacct ggcacagtca ctgatgagac cttcttagaa  
1500  
aagctgaacc aagtatgtgc caccaccag cattttgaaa gcaggatgag caagtgtctt  
1560  
cggttcctca atgacacgtc tctgcctcac agctgcttca ggatc  
1605

&lt;210&gt; 4830

&lt;211&gt; 512

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4830

```

Met Ala Lys Met Glu Val Lys Thr Ser Leu Leu Asp Asn Met Ile Gly
 1           5           10           15
Val Gly Asp Met Val Leu Leu Glu Pro Leu Asn Glu Glu Thr Phe Ile
      20           25           30
Asn Asn Leu Lys Lys Arg Phe Asp His Ser Glu Ile Tyr Thr Tyr Ile
      35           40           45
Gly Ser Val Val Ile Ser Val Asn Pro Tyr Arg Ser Leu Pro Ile Tyr
      50           55           60
Ser Pro Glu Lys Val Glu Glu Tyr Arg Asn Arg Asn Phe Tyr Glu Leu
      65           70           75           80
Ser Pro His Ile Phe Ala Leu Ser Asp Glu Ala Tyr Arg Ser Leu Arg
      85           90           95
Asp Gln Asp Lys Asp Gln Cys Ile Leu Ile Thr Gly Glu Ser Gly Ala
      100           105           110
Gly Lys Thr Glu Ala Ser Lys Leu Val Met Ser Tyr Val Ala Ala Val
      115           120           125
Cys Gly Lys Gly Ala Glu Val Asn Gln Val Lys Glu Gln Leu Leu Gln
      130           135           140
Ser Asn Pro Val Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Arg Asn
      145           150           155           160
Asp Asn Ser Ser Arg Phe Gly Lys Tyr Met Asp Ile Glu Phe Asp Phe
      165           170           175
Lys Gly Asp Pro Leu Gly Gly Val Ile Ser Asn Tyr Leu Leu Glu Lys
      180           185           190
Ser Arg Val Val Lys Gln Pro Arg Gly Glu Arg Asn Phe His Val Phe
      195           200           205
Tyr Gln Leu Leu Ser Gly Ala Ser Glu Glu Leu Leu Asn Lys Leu Lys
      210           215           220
Leu Glu Arg Asp Phe Ser Arg Tyr Asn Tyr Leu Ser Leu Asp Ser Ala
      225           230           235           240
Lys Val Asn Gly Val Asp Asp Ala Ala Asn Phe Arg Thr Val Arg Asn
      245           250           255
Ala Met Gln Ile Val Gly Phe Met Asp His Glu Ala Glu Ser Val Leu
      260           265           270
Ala Val Val Ala Ala Val Leu Lys Leu Gly Asn Ile Glu Phe Lys Pro
      275           280           285
Glu Ser Arg Val Asn Gly Leu Asp Glu Ser Lys Ile Lys Asp Lys Asn
      290           295           300
Glu Leu Lys Glu Ile Cys Glu Leu Thr Gly Ile Asp Gln Ser Val Leu
      305           310           315           320
Glu Arg Ala Phe Ser Phe Arg Thr Val Glu Ala Lys Gln Glu Lys Val
      325           330           335
Ser Thr Thr Leu Asn Val Ala Gln Ala Tyr Tyr Ala Arg Asp Ala Leu
      340           345           350
Ala Lys Asn Leu Tyr Ser Arg Leu Phe Ser Trp Leu Val Asn Arg Ile
      355           360           365
Asn Glu Ser Ile Lys Ala Gln Thr Lys Val Arg Lys Lys Val Met Gly

```

370					375					380					
Val	Leu	Asp	Ile	Tyr	Gly	Phe	Glu	Ile	Phe	Glu	Asp	Asn	Ser	Phe	Glu
385					390					395					400
Gln	Phe	Ile	Ile	Asn	Tyr	Cys	Asn	Glu	Lys	Leu	Gln	Gln	Ile	Phe	Ile
				405					410					415	
Glu	Leu	Thr	Leu	Lys	Glu	Glu	Gln	Glu	Glu	Tyr	Ile	Arg	Glu	Asp	Ile
			420					425					430		
Glu	Trp	Thr	His	Ile	Asp	Tyr	Phe	Asn	Asn	Ala	Ile	Ile	Cys	Asp	Leu
	435					440					445				
Ile	Glu	Asn	Asn	Thr	Asn	Gly	Ile	Leu	Ala	Met	Leu	Asp	Glu	Glu	Cys
	450					455					460				
Leu	Arg	Pro	Gly	Thr	Val	Thr	Asp	Glu	Thr	Phe	Leu	Glu	Lys	Leu	Asn
465					470					475					480
Gln	Val	Cys	Ala	Thr	His	Gln	His	Phe	Glu	Ser	Arg	Met	Ser	Lys	Cys
			485						490					495	
Ser	Arg	Phe	Leu	Asn	Asp	Thr	Ser	Leu	Pro	His	Ser	Cys	Phe	Arg	Ile
			500					505					510		

```
<210> 4831
<211> 578
<212> DNA
<213> Homo sapiens
```

```

<400> 4831
cggacgggtgg ccctcaaagg cccagtcacc aatgccgcca tctgtctggc gcccgtcagc
60
atgctgagct cagacttcag gcccagcctg ccgctgcccc acttcaacaa gcacctgctg
120
ggcgccgagc acggggacga gccgcgccac gggggcctca ctctgcgcct gggcctccac
180
cagcagagcg tgctcggcgg ccaggaccag ctgcgcgtcc gtgtgacgga gctggaggac
240
gagggtgcgca acctgcgcaa gatcaatcgg gacctgttcg acttctccac gcgcttcac
300
acgcggcccg ccaagtgagg cccggagacc ccggcccagag gcgcccaggc ctgagcccca
360
tgcttcccag caaccagggc ccgcgggtgt ggccccacc agcccaggcc tggactctcc
420
tcagttctgt gtcgtgttcg ggtttttcct ctgtgactgg gccgtcttgg tgtctcgtgg
480
cacgcgtcac agtggtgcta gtctgttttt aacaaaagag gatgaaaagc caaaaaaaaa
540
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa
578

```

```
<210> 4832
<211> 105
<212> PRT
<213> Homo sapiens
```

```

<400> 4832
Arg Thr Val Ala Leu Lys Gly Pro Val Thr Asn Ala Ala Ile Leu Leu
 1             5             10             15
Ala Pro Val Ser Met Leu Ser Ser Asp Phe Arg Pro Ser Leu Pro Leu

```

	20		25		30										
Pro	His	Phe	Asn	Lys	His	Leu	Leu	Gly	Ala	Glu	His	Gly	Asp	Glu	Pro
	35		40		45										
Arg	His	Gly	Gly	Leu	Thr	Leu	Arg	Leu	Gly	Leu	His	Gln	Gln	Ser	Val
	50		55		60										
Leu	Gly	Gly	Gln	Asp	Gln	Leu	Arg	Val	Arg	Val	Thr	Glu	Leu	Glu	Asp
65			70		75				80						
Glu	Val	Arg	Asn	Leu	Arg	Lys	Ile	Asn	Arg	Asp	Leu	Phe	Asp	Phe	Ser
	85		90		95										
Thr	Arg	Phe	Ile	Thr	Arg	Pro	Ala	Lys							
	100		105												

&lt;210&gt; 4833

&lt;211&gt; 872

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4833

```

nnctggacag aatttttaaa agcaatgaag ccagttcctt ggatatatcc acgggctttg
60
ctttgagaag gaactgagta ggcagtgaga agagtcgagt gaagcctggc ccgtgagtgc
120
ctcaacaact gagatgaacg tcgactcgct tgcaggcaag ttgtcactca gcagcgatct
180
gaactatatc ctgggttcca gaaaaggcag aggttcttac cgaaagcagg ggaggaagcc
240
gcagcccaag gaggtcgta cttgccggga aggtggctcg ggccaggctg cactcaaaac
300
ccgtgctctg tccacactgc tacggggcca gagccaagga agcttccact tcttccccca
360
gacagcccca acagcggcta cccaaggag ccagcagcct tgtgtcctgg gatccccage
420
ccctgcagaa tgaccacca ggatctgagc atcacagcca aactcatcaa tggaggtgta
480
gcagggtcgc tgggggtgac ctgcgtgttc cccatcgact tggccaagac tcgcctgcag
540
aaccagcatg ggaaagccat gtacaaagga atgatcgact gcctgatgaa gacggctcgg
600
gcggagggtc tcttcggcat gtaccgaggg gctgcagtga acctcactct ggtcactcca
660
gagaaggcca tcaagctggc ggccaacgac tttttccggc ggctgctcat ggaagatggg
720
atgcagcgga acctgaagat ggagatgctt gccgggtgtg gggctgggat gtgccaggtc
780
gtggtgacct gtcccatgga aatgctcaag attcagctgc aggcattgctg gacgcctggc
840
cgtccatcat cagggtcgg cctcagcacc ct
872

```

&lt;210&gt; 4834

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4834

Met Thr His Gln Asp Leu Ser Ile Thr Ala Lys Leu Ile Asn Gly Gly  
 1 5 10 15  
 Val Ala Gly Leu Val Gly Val Thr Cys Val Phe Pro Ile Asp Leu Ala  
 20 25 30  
 Lys Thr Arg Leu Gln Asn Gln His Gly Lys Ala Met Tyr Lys Gly Met  
 35 40 45  
 Ile Asp Cys Leu Met Lys Thr Ala Arg Ala Glu Gly Phe Phe Gly Met  
 50 55 60  
 Tyr Arg Gly Ala Ala Val Asn Leu Thr Leu Val Thr Pro Glu Lys Ala  
 65 70 75 80  
 Ile Lys Leu Ala Ala Asn Asp Phe Phe Arg Arg Leu Leu Met Glu Asp  
 85 90 95  
 Gly Met Gln Arg Asn Leu Lys Met Glu Met Leu Ala Gly Cys Gly Ala  
 100 105 110  
 Gly Met Cys Gln Val Val Val Thr Cys Pro Met Glu Met Leu Lys Ile  
 115 120 125  
 Gln Leu Gln Ala Cys Trp Thr Pro Gly Arg Pro Ser Ser Gly Leu Gly  
 130 135 140  
 Leu Ser Thr  
 145

&lt;210&gt; 4835

&lt;211&gt; 1846

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4835

nctcatttcc gaagtgccct gacagcccac cctgtgcgtg accctgtgca catgtaccag  
 60  
 ctgcacaaag ctttcgcccg agctgaactg gaacgcacgt accaggagat ccaggagtta  
 120  
 cagtgggaga tccagaatac cagccatctg gccgttgatg gggaccgggc agctgcttgg  
 180  
 cccgtgggta ttccagcacc atcccgcccg gcctcccgtt ttgaggtgct gcgctgggac  
 240  
 tacttcacgg agcagcacgc tttctcctgc gccgatggct caccgccgtg cccactgcgt  
 300  
 ggggctgacc gggtgatgt ggccgatgtt ctggggacag ctctagagga gctgaaccgc  
 360  
 cgctaccacc cggccttgcg gctccagaag cagcagctgg tgaatggcta ccgacgcttt  
 420  
 gatccggccc ggggtatgga atacacgtg gacttgacgc tggaggcact gacccccag  
 480  
 ggaggccgcc ggcccctcac tcgccgactg cagctgctcc ggccgctgag ccgcgtggag  
 540  
 atcttgccctg tgccctatgt cactgaggcc tcacgtctca ctgtgctgct gcctctagct  
 600  
 gcggctgagc gtgacctggc cctggcttc ttggaggcct ttgccactgc agcactggag  
 660  
 cctggtgatg ctgcggcagc cctgaccctg ctgctactgt atgagccgcg ccaggccccag  
 720  
 cgcgtggccc atgcagatgt cttcgcacct gtcaaggccc acgtggcaga gctggagcgg  
 780



cgtttccccg gtgcccgggt gccatggctc agtgtgcaga cagccgcacc ctcaccactg  
 840  
 cgcctcatgg atctactctc caagaagcac ccgctggaca cactgttctt gctggccggg  
 900  
 ccagacacgg tgctcacgcc tgacttcctg aaccgctgcc gcatgcatgc catctccggc  
 960  
 tggcaggcct tctttcccat gcatttccaa gccttccacc cagctgtggc cccaccacaa  
 1020  
 gggcctgggc cccagagct ggggccgtga cactggccgc tttgatcgcc aggcagccag  
 1080  
 cgaggcctgc ttctacaact ccgactacgt ggcagcccgt gggcgccctgg ggcagctca  
 1140  
 gaacaagaag aggagctgct ggagagcctg gatgtgtacg agctgttctt ccacttctcc  
 1200  
 agtctgcatg tgctgcgggc ggtggagcgg cgctgctgca gccgctaccg ggcccagacg  
 1260  
 tgcagcgcga ggctcagtga ggacctgtac caccgctgcc tccagagcgt gcttgagggc  
 1320  
 ctgggtccc gaaccagct ggccatgcta ctctttgaac aggagcaggg caacagcacc  
 1380  
 tgacccacc ctgtccccgt gggcccgctg cattggccac accccacccc acttctcccc  
 1440  
 caaaaccaga gccacctgcc agcctcgctg ggcagggtg gccgtagcca gaccccaagc  
 1500  
 tggcccactg gtccccctc tggtctgtg ggtccctggg ctctggacaa gcactggggg  
 1560  
 acgtgcccc agagccaccc acttctcatc ccaaaccag tttccctgcc cctgacgct  
 1620  
 gctgattcgg gctgtggcct ccacgtattt atgcagtaca gtctgcctga cgccagccct  
 1680  
 gcctctgggc cctgggggct gggctgtaga agagtgttg gggaaggagg gagctgagga  
 1740  
 gggggcatct cccaacttct cccttttga cctgcccga gctccctgcc ttttaataaac  
 1800  
 tggccaagtg tggaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1846

&lt;210&gt; 4836

&lt;211&gt; 349

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4836

Xaa	His	Phe	Arg	Ser	Ala	Leu	Thr	Ala	His	Pro	Val	Arg	Asp	Pro	Val
1				5					10					15	
His	Met	Tyr	Gln	Leu	His	Lys	Ala	Phe	Ala	Arg	Ala	Glu	Leu	Glu	Arg
			20					25				30			
Thr	Tyr	Gln	Glu	Ile	Gln	Glu	Leu	Gln	Trp	Glu	Ile	Gln	Asn	Thr	Ser
		35					40				45				
His	Leu	Ala	Val	Asp	Gly	Asp	Arg	Ala	Ala	Ala	Trp	Pro	Val	Gly	Ile
	50					55				60					
Pro	Ala	Pro	Ser	Arg	Pro	Ala	Ser	Arg	Phe	Glu	Val	Leu	Arg	Trp	Asp
65				70					75				80		
Tyr	Phe	Thr	Glu	Gln	His	Ala	Phe	Ser	Cys	Ala	Asp	Gly	Ser	Pro	Arg

	85		90		95										
Cys	Pro	Leu	Arg	Gly	Ala	Asp	Arg	Ala	Asp	Val	Ala	Asp	Val	Leu	Gly
	100						105						110		
Thr	Ala	Leu	Glu	Glu	Leu	Asn	Arg	Arg	Tyr	His	Pro	Ala	Leu	Arg	Leu
	115						120						125		
Gln	Lys	Gln	Gln	Leu	Val	Asn	Gly	Tyr	Arg	Arg	Phe	Asp	Pro	Ala	Arg
	130						135					140			
Gly	Met	Glu	Tyr	Thr	Leu	Asp	Leu	Gln	Leu	Glu	Ala	Leu	Thr	Pro	Gln
	145					150					155				160
Gly	Gly	Arg	Arg	Pro	Leu	Thr	Arg	Arg	Val	Gln	Leu	Leu	Arg	Pro	Leu
				165					170					175	
Ser	Arg	Val	Glu	Ile	Leu	Pro	Val	Pro	Tyr	Val	Thr	Glu	Ala	Ser	Arg
		180						185					190		
Leu	Thr	Val	Leu	Leu	Pro	Leu	Ala	Ala	Glu	Arg	Asp	Leu	Ala	Pro	
	195					200					205				
Gly	Phe	Leu	Glu	Ala	Phe	Ala	Thr	Ala	Ala	Leu	Glu	Pro	Gly	Asp	Ala
	210					215					220				
Ala	Ala	Ala	Leu	Thr	Leu	Leu	Leu	Tyr	Glu	Pro	Arg	Gln	Ala	Gln	
	225				230					235				240	
Arg	Val	Ala	His	Ala	Asp	Val	Phe	Ala	Pro	Val	Lys	Ala	His	Val	Ala
				245					250					255	
Glu	Leu	Glu	Arg	Arg	Phe	Pro	Gly	Ala	Arg	Val	Pro	Trp	Leu	Ser	Val
		260					265						270		
Gln	Thr	Ala	Ala	Pro	Ser	Pro	Leu	Arg	Leu	Met	Asp	Leu	Leu	Ser	Lys
	275					280					285				
Lys	His	Pro	Leu	Asp	Thr	Leu	Phe	Leu	Leu	Ala	Gly	Pro	Asp	Thr	Val
	290					295					300				
Leu	Thr	Pro	Asp	Phe	Leu	Asn	Arg	Cys	Arg	Met	His	Ala	Ile	Ser	Gly
	305				310					315				320	
Trp	Gln	Ala	Phe	Phe	Pro	Met	His	Phe	Gln	Ala	Phe	His	Pro	Ala	Val
			325						330				335		
Ala	Pro	Pro	Gln	Gly	Pro	Gly	Pro	Pro	Glu	Leu	Gly	Pro			
		340					345								

&lt;210&gt; 4837

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4837

nagggggagg aggaggaggt ggtggcagcc tttgggaaga aggagtccca ggaggaagag  
60  
gaggaagaag acagtgcga aggggaaaga acaattgaaa ctgcaaaagg gattaatgga  
120  
actgtaaatt atgatagtgt caattctgac aactctaagc caaagatatt taaaagtcaa  
180  
atagagaaca taaatttgac caatggcagc aatgggagga acacagagtc cccagctgcc  
240  
attcaccctt gtggaaatcc tacagtgatt gaggacgctt tggacaagat taaaagcaat  
300  
gaccctgaca ccacagaagt caatttgaac aacattgaga acatcacaac acagaccctt  
360  
acccgctttg ctgaagccct caaggacaac actgtggtga agacgttcag tctggccaac  
420

acgcatgccg acgacagtgc agccatggcc attgcagaga tgctcaaagt caatgagcac  
 480  
 atcaccaacg taaacgtcga gtccaacttc ataacgggaa aggggatcct ggccatcatg  
 540  
 agagctctcc agcacaacac ggtgctcacg gagctgcgtt tccataacca gaggcacatc  
 600  
 atgggcagcc aggtggaaat ggagattgtc aagctgctga aggagaacac gacgctgctg  
 660  
 aggctgggat accattttga actcccagga ccaagaatga gcatgacgag cattttgaca  
 720  
 agaaatatgg ataaacagag gcaaaaacgt ttgcaggagc aaaaacagca ggagggatac  
 780  
 gatggaggac ccaatcttag gaccaaagtc tggcaaagag gaacacctag cccttccct  
 840  
 tatgtatctc ccaggcactc accgtggtca tccccaaaac tcccctacgg agagacgaca  
 900  
 acgcgt  
 906

&lt;210&gt; 4838

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4838

Xaa Gly Glu Glu Glu Glu Val Val Ala Ala Phe Gly Lys Lys Glu Ser  
 1 5 10 15  
 Gln Glu Glu Glu Glu Glu Asp Ser Asp Glu Gly Glu Arg Thr Ile  
 20 25 30  
 Glu Thr Ala Lys Gly Ile Asn Gly Thr Val Asn Tyr Asp Ser Val Asn  
 35 40 45  
 Ser Asp Asn Ser Lys Pro Lys Ile Phe Lys Ser Gln Ile Glu Asn Ile  
 50 55 60  
 Asn Leu Thr Asn Gly Ser Asn Gly Arg Asn Thr Glu Ser Pro Ala Ala  
 65 70 75 80  
 Ile His Pro Cys Gly Asn Pro Thr Val Ile Glu Asp Ala Leu Asp Lys  
 85 90 95  
 Ile Lys Ser Asn Asp Pro Asp Thr Thr Glu Val Asn Leu Asn Asn Ile  
 100 105 110  
 Glu Asn Ile Thr Thr Gln Thr Leu Thr Arg Phe Ala Glu Ala Leu Lys  
 115 120 125  
 Asp Asn Thr Val Val Lys Thr Phe Ser Leu Ala Asn Thr His Ala Asp  
 130 135 140  
 Asp Ser Ala Ala Met Ala Ile Ala Glu Met Leu Lys Val Asn Glu His  
 145 150 155 160  
 Ile Thr Asn Val Asn Val Glu Ser Asn Phe Ile Thr Gly Lys Gly Ile  
 165 170 175  
 Leu Ala Ile Met Arg Ala Leu Gln His Asn Thr Val Leu Thr Glu Leu  
 180 185 190  
 Arg Phe His Asn Gln Arg His Ile Met Gly Ser Gln Val Glu Met Glu  
 195 200 205  
 Ile Val Lys Leu Leu Lys Glu Asn Thr Thr Leu Leu Arg Leu Gly Tyr  
 210 215 220  
 His Phe Glu Leu Pro Gly Pro Arg Met Ser Met Thr Ser Ile Leu Thr

225		230		235		240									
Arg	Asn	Met	Asp	Lys	Gln	Arg	Gln	Lys	Arg	Leu	Gln	Glu	Gln	Lys	Gln
				245					250					255	
Gln	Glu	Gly	Tyr	Asp	Gly	Gly	Pro	Asn	Leu	Arg	Thr	Lys	Val	Trp	Gln
			260					265					270		
Arg	Gly	Thr	Pro	Ser	Pro	Ser	Pro	Tyr	Val	Ser	Pro	Arg	His	Ser	Pro
		275						280				285			
Trp	Ser	Ser	Pro	Lys	Leu	Pro	Tyr	Gly	Glu	Thr	Thr	Thr	Arg		
	290					295					300				

&lt;210&gt; 4839

&lt;211&gt; 1313

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4839

```

nnggcgctca gggccccac aagaggctga gggaatgttg tgggctgggg cacaccagca
60
cggcagaaac tggagaaagc gagagacgtc gccagggacc cagggaacctc tccctccagt
120
tccccggggc cgcccggccc tgatggccac tcacgtata gcgccaactc tgtcctgggc
180
catcccgcg cagcagtgtg gccccagcc cgggcgcctg aatgctctcc ctccggatcg
240
ctgctcgggt cccactttg ggcaccgntg cccccagtc ctgcttcccc ggggcctgct
300
ctgtatcagg cgctgcgcc ttcaagggtg cccggcccg cctgcccctcc caagagccga
360
gtttgcgctc ctcccgaat cgtttgagag aaggacaaac ttttggcagg atggaaatct
420
agatgagcct gtccggagca gaacaccct gattagccag gccaccgccc atccacatct
480
gctcggcaaa gaaggaaggc agcttggtcc agacctggt gagcagctgc agactgcctg
540
cctagaacag cctccttact ccagcctggc agggaaaggaa ggaacctgac ttgcttcgca
600
ggatctggaa gctcagccgg cagagctgag agccgcagtt gcatcctgga gcctgatgct
660
agaagcagct tccgtctttg gggtcttgct gcctcggcct ctgctctggt cagtttgctg
720
ttgtgttttt ctcccccatg ttgggggtgg ggggtacagg gaaataaaat gctttctccc
780
aggcccctaa tcttccccca tgccctccatc agcctcaaag ctgctgacag tcatgaactg
840
caccttccag cctgcccac aagctactca aagcaaattc aaattctctt ctggccaggg
900
ggaaggggcag atgctccctc ctccctcaag cctccctggc tcattgatcc attttgaggg
960
catttggggg tcaaagttga gaccagattg cttcagtttg tataaaatta gcatttctta
1020
tcacaccaag gccacacctg ttctctggcc tcacaaacca gtgaggatgt aaaggtttgt
1080
tgaggtggag gaacagaagt gaaatgagca atctgtcca tttagaagtc agtcgcttcg
1140

```

gctgttcatt ccactaatat ttatctagta cctattctgt gccaaagcatt gtctctacct  
 1200  
 cagtttgcca caaatatgaa aaaaaaaaaa ttcttggaaac tgtgaggctt caatgtgttg  
 1260  
 tggaccaata tacaaataaa ccaatggaaa agaaaaaaaaa aaaaaaaaaa aaa  
 1313

<210> 4840  
 <211> 66  
 <212> PRT  
 <213> Homo sapiens

<400> 4840  
 Xaa Ala Leu Arg Ala Pro Thr Arg Gly Arg Gly Asn Val Val Gly Trp  
 1 5 10 15  
 Gly Thr Pro Ala Arg Gln Lys Leu Glu Lys Ala Arg Asp Val Ala Arg  
 20 25 30  
 Asp Pro Gly Thr Ser Pro Ser Ser Ser Pro Gly Pro Pro Gly Pro Asp  
 35 40 45  
 Gly His Ser Arg Tyr Ser Ala His Ser Val Leu Gly His Pro Ala Pro  
 50 55 60  
 Ala Val  
 65

<210> 4841  
 <211> 558  
 <212> DNA  
 <213> Homo sapiens

<400> 4841  
 acgcgtgcga gtgtgcggac tcagtggacg acggcggcgg cggcgaaagc ggatgaagac  
 60  
 cccggagcca acttgtttcc gccgccgctg ccccgacccc ggatctgcat gtggaagtac  
 120  
 ctggacgtcc attccatgca ccagctggag aagaccacca atgctgagat gagggaggtg  
 180  
 ctggctgagc tgctggagct aggggtgtcct gagcagagcc tgagggacgc catcaccctg  
 240  
 gacctcttct gccacgcgct cattttctgc cgccagcagg gcttctcact ggagcagacg  
 300  
 tcagcggctt gtgccctgct ccaggatctt cacaaggctt gtattggcca catccacgtc  
 360  
 ctccgagcct acatcaagac ccaagtgaac aaagagctgg agcagctcca ggggctgggtg  
 420  
 gaggagcgt caaggccagc gaggaaggc tcagcagcaa gttgactgca ctagagcggc  
 480  
 ccttcagct actccgggta aaggcaagag caagaccaag tgaccccaaa cattttcccc  
 540  
 aataaaggtc tgggccag  
 558

<210> 4842  
 <211> 118  
 <212> PRT

<213> Homo sapiens

<400> 4842

```

Met Trp Lys Tyr Leu Asp Val His Ser Met His Gln Leu Glu Lys Thr
 1           5           10           15
Thr Asn Ala Glu Met Arg Glu Val Leu Ala Glu Leu Leu Glu Leu Gly
      20           25           30
Cys Pro Glu Gln Ser Leu Arg Asp Ala Ile Thr Leu Asp Leu Phe Cys
      35           40           45
His Ala Leu Ile Phe Cys Arg Gln Gln Gly Phe Ser Leu Glu Gln Thr
      50           55           60
Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His Lys Ala Cys Ile Gly
65           70           75           80
His Ile His Val Leu Arg Ala Tyr Ile Lys Thr Gln Val Asn Lys Glu
      85           90           95
Leu Glu Gln Leu Gln Gly Leu Val Glu Glu Arg Ser Arg Pro Ala Arg
      100          105          110
Lys Gly Ser Ala Ala Ser
      115

```

<210> 4843

<211> 6403

<212> DNA

<213> Homo sapiens

<400> 4843

```

ggcagcagct gtaggagcag gggcctagca agcgcccagc ggagcgaccc ctgcctggcc
60
gtggctagca tggcccctac gctgttccag aagctcttca gcaagaggac cgggctgggc
120
gcgcccggcc gcgacgcccg ggaccagat tgcgggttca gttggccttt accagagttt
180
gatccaagcc agattcgact gattgtatat caagactgtg aaagacgagg gagaaatgtt
240
ttgtttgact ccagtgttaa gagaagaaat gaggacatat cagtatcgga cttaaatact
300
atattattctt atcttcatgg aatggaaata ttatcaaata tcagggaaca tcagcttaga
360
ttaatgtctg caagagcacg ctatgagaga tacagtggca atcaggttct cttttgttca
420
gaaacgattg ccagatgttg gtatatacta ctttctggat ctgtgcttgt gaaaggctcc
480
atggtcttgc ctcttgcag ttttggttaag cagtttggag gaaaaagagg atgtgattgt
540
cttgatttag agccttcaga aatgattgtg gtagagaatg ccaaagataa tgaagatagt
600
attctacaaa gagaaattcc tgccagacaa tcccgaagaa gatttcggaa aattaactat
660
aaaggagagc gccaaaccat tactgatgat gtggagggtta acagctatct ttctcttcca
720
gctgatctta ccaagatgca tctcacagaa aaccctcatc cacagggtgac tcatgtgtct
780
tctagtcagt ctggtttag cattgccagt gactctggaa gcagcagttt atctgatatc
840

```

tatcaggcta cggagagtga ggtaggagat gtagatttga cacgtcttcc agaaggacct  
900  
gttgattctg aggatgacga agaggaagat gaagagattg atcgaaacaga tccattgacg  
960  
gggcgagatc ttgttcgaga atgtcttgaa aaagaacctg cagacaaaac tgatgatgac  
1020  
attgaacaat tgctggagtt tatgcaccag ctccctgcat ttgcaaacat gaccatgtct  
1080  
gtaaggagag aactctgctc agtgatgatt tttgaagtgg tagagcaggc tggagctatt  
1140  
attcttgaag atgggcaaga gcttgactca tggatatgta ttttaaaccg cactgtggaa  
1200  
atcagtcac cagatggaaa agttgaaaat ttgtttatgg gaaatagttt tgggaattact  
1260  
cccactctgg ataagcagta catgcatgga attgtcagga cttaaagtaga tgattgtcag  
1320  
tttgtctgca tagcccagca agattattgg agaattttaa accatgtgga aaaaaatacc  
1380  
cataaagttg aggaagaggg agaaattggt atggtacatg agcatcgga actagaccgg  
1440  
agtggaacca ggaaaggaca cattgtgac aaggcaacac ctgagcgtct cataatgcac  
1500  
ttaatagaag aacattccat cgtggatcca acctatatag aagattttct attaaacttac  
1560  
aggacatttc ttgaaagtcc tttggatggt gggatcaaac tattggaatg gtttaagatc  
1620  
gacagcttaa gagataaggt gacacggatt gtattattat gggtaaataa tcattttaat  
1680  
gattttgaag gtgaccctgc tatgactcga tttctagagg aatttgaaaa aaatctggaa  
1740  
gatacaaaga tgaatggtca tctccggtta ttgaatattg cctgtgctgc aaaggctaag  
1800  
tggagacagg ttgtgctgca aaaggcttcc cgcgagtcct ctctacaatt cagccttaat  
1860  
ggagggagtg agaagggatt tggtatTTTT gttgaaggag tagaacctgg tagcaaagct  
1920  
gctgattcag gactgaaacg tggatgacag attatggaag taaatggaca aaactttgag  
1980  
aatattacat ttatgaaagc cgttgaaatt ttgaggaata atactcatct tgcacttact  
2040  
gtgaagacca acatttttgt gttcaaagag ttacttttta ggactgaaca agagaaatct  
2100  
ggtgttcctc atattcccaa aattgctgaa aaaaaaagta atcgccattc tatccagcat  
2160  
gtgccaggag atattgaaca gacatcacag gagaaaggaa gtaagaaagt taaagcaaat  
2220  
actgtttcag gtggaagaaa caaatcagg aagattttgg ataaaacacg atttagtatt  
2280  
ttgcctcaa agctatttag tgatggaggc ctaagccaat cacaagatga cagcattgtg  
2340  
ggaacaaggc actgtaggca tagtctggct ataatgccca tccctggaac actctcatcc  
2400  
agcagccctg atctctgca gcctaccacc agtatgttgg atttttccaa tccttcagat  
2460

atccctgac aagttataag agttttcaaa gtggatcagc aaagttgcta cattatcatc  
2520  
agtaaagaca ccacagctaa agaagtagtt tttcatgctg ttcatagaatt tggtttgacc  
2580  
gggtgcatccg acacatatc tctctgtgaa gtttctgtta ctccctgaggg tgtcataaaa  
2640  
cagagaagac ttccagatca gttctccaaa ttagctgata gaattcaact caatggaagg  
2700  
tattacttaa aaaataacat ggaaacagaa accttatgtt cagatgaaga tgctcaagaa  
2760  
ctagttaagg aaagccagct atccatgctg cagctcagta ccattgaggt ggccaccag  
2820  
ctgtcaatga gggactttga tttgtttcgt aatattgaac cgactgagta catcgatgac  
2880  
ctttttaagt taaattccaa aacaggaaat actcatttga agaggtttga ggacatttga  
2940  
aaccaagaga cattctgggt tgcctcagaa attttaactg aagcaaatca gctcaaacga  
3000  
atgaagatta ttaagcattt tattaataatt gcacttcatt gtcgagaatg taagaacttc  
3060  
aattccatgt ttgcaataat aagtggcttg aacctggcat ctgtagcaag actcagagga  
3120  
acttgggaaa agttaccaag caaatcagag aaacatcttc aagatctaca agacattttt  
3180  
gatccatcta gaaacatggc aaagtataga aatattctta gtagtcaaag tatgcagcct  
3240  
ccaattatc cactcttccc tgttgtcaag aaagatatga cttttctaca tgaaggaaat  
3300  
gactccaaag tagatggtt agtaaaactt gagaagttaa gaatgatttc caaggaaatc  
3360  
cgccaagttg ttcgaatgac ttctgctaac atggacccag ctatgatgtt tcgacagagg  
3420  
tactgagtc aaggaagcac aaattcaaac atgctggatg ttcagggagg tgctcacaaa  
3480  
aaaagggcac gccgcagctc tctgcttaat gccagaagc tatatgagga tgcccaaag  
3540  
gcaaggaagg tgaagcagta tctttccagt ctcgatgtag agacagatga ggagaagttc  
3600  
cagatgatgt cattacagtg ggagcctgca tatggtacct tgaccaagaa ttttaagtga  
3660  
aaaagatcag ccaagnatc atctgaaatg tctccagtgc ctatgaggtc agctggccaa  
3720  
acaactaaag ccacttgca tcaacccac agagtaagcc aggtgcttca ggtgccagct  
3780  
gttaatttgc accccatcag gaagaagga caaacaaaag accctgcact gaatacaagt  
3840  
ttacctcaga aagttttagg aacaactgaa gaaataagt gtaagaagca tacagaagac  
3900  
actatttctg tggcgtcatc ttacattct agtcctctg catctctca aggtccccc  
3960  
cacaaggtt acacacttat tccatcagct aaatctgaca acttgtctga ctccagccat  
4020  
agtgaatctt cttcacggtc cagcatcgtg agcaattgtt ctgttgactc catgtctgca  
4080



gctctacagg atgaacggtg ttcctctcag gccctggcag tccctgaatc cactggggca  
4140  
ttggaaaaga cagagcacgc ttcagggata ggagatcata gtcaacatgg ccctgggtgg  
4200  
acactcttga agccatctct aatcaagtgt ttagctgtct catcgtctgt gagcaatgaa  
4260  
gagatttctc aagagcatat cattatagaa gcagctgaca gtggtcgtgg aagtggact  
4320  
tcgtgttcaa gcagctccca tgacaacttc caaagccttc caaacccaaa aagctgggat  
4380  
tttttgaact cttacagaca taccatttg gatgacccca ttgctgaagt tgaaccact  
4440  
gactctgagc cctattcctg ttctaaaagc tgctctagaa cttgtgggca gtgtaaagga  
4500  
agcctagaga gaaagagttg gacctcctcc agttctctgt ctgacacgta tgaaccaaac  
4560  
tatgggacag ttaaacggag agtattggag agcaccacag ctgagtcac tgaaggcttg  
4620  
gaccccaagg atgccactga cccagtttat aaaactgtca cttcaagtac agaaaagggc  
4680  
ttgattgtgt actgtgtcac ctcaccaag aaggacgata ggtatagga gccacctccc  
4740  
actcctccag gatatttggg gatttcttta gcggacctaa aggaaggacc ccacacacac  
4800  
ctaaaacctc cagattatag tgtggcagtg cagaggtcaa agatgatgca taacagcctc  
4860  
tctagactgc caccagcttc tctcagtagc aacctcgagg cctgtgttcc atcgaagatt  
4920  
gtaactcagc ctcagaggca taatttgcag ccattccatc ctaaaactagg agatgtgact  
4980  
gatgcagata gcgaagcaga tgaaaatgaa caagtctcag cagtctagcc tttggatgac  
5040  
ctatttgaaa accactgaaa gtcgtggagg aatgggcaag aaccacctca tgattctgca  
5100  
ggccattgct aacgaacagc tcattgctac aaccagtcca gaggttttat tccctctact  
5160  
ccgagcaatg aaatagacct gagttatgct tcctttcatt taatttctgc agataaatag  
5220  
tttctgagc aatggatgct atgcctggat accagtctcc actttgcacg ccggaactgc  
5280  
cttgggacca cagttacaga aaaaatgtaa actcagagtg atccttgtgt atattgctat  
5340  
agatttttct ttaacaagct attttaaaga taatggcatt attatttcca agccatagct  
5400  
tgggctgaag gacaaattga aattgtctgc caataccaag gatattctta tatatttgaa  
5460  
aaataactta ttatttgaat tgttgtggtt ttgtttgtat ttgagagctc ttgttagctg  
5520  
atattcatgt ttgaggtcat aaaattgtct ctggtctgac caaacagaag tcattcttac  
5580  
agaggtgata tgcttgatct acacagagat gtgacttgat ctgtagcacc aatgcaatgt  
5640  
aggtctcagt ttgagagaaa taggaagccc tttgcagttg aggtgttagg aacctgctgg  
5700

tcatgggtgtg gaaggccaaa tgaagctgcc acagggtttc ttgtcagtc tttgggaaat  
 5760  
 gggaggaggagt agtttgggga ggagggtggg aaccctaatt tccacagaat gaaattttga  
 5820  
 tgttaaataga catgtataca aattcttcct taagtgaag ttatgctgca tcgaattgta  
 5880  
 actgaaagta tagatccaac aaatagagac tgggttctag agagttctgg tctatagaaa  
 5940  
 cccaaaacta aaatctctca taactcaagt atggaatact ttttttaaag aaattcttat  
 6000  
 catgggtgtt gtaataatga agacgaattt gactttatgc agtgttctgc agcatgcctc  
 6060  
 ccccatctct catagcacca ggttgtgtct gacctgacat accctgcagc tctcagctgg  
 6120  
 ctgcagtaac attttgtggg agaaagagga gctggagtta cagaaatgat tgtctcttgg  
 6180  
 ttctcagttt ttagcccttg agaggacata cttttccagc ctcatgggta tggcactctt  
 6240  
 aattaaaatt tcagtgactg tttactggat gaggcagatt tttcacattt ttgcaaatta  
 6300  
 aatatatttt atatatatta agtttaattt tttcagtttt tttaatgtaa aagcaagtga  
 6360  
 aattttaata aacttctgta attaccaaaa aaaaaaaaaa aaa  
 6403

&lt;210&gt; 4844

&lt;211&gt; 1675

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4844

Gly	Thr	Ser	Cys	Arg	Ser	Arg	Gly	Leu	Ala	Ser	Ala	Gln	Arg	Ser	Asp
1				5					10					15	
Pro	Cys	Leu	Ala	Val	Ala	Ser	Met	Ala	Pro	Thr	Leu	Phe	Gln	Lys	Leu
			20					25					30		
Phe	Ser	Lys	Arg	Thr	Gly	Leu	Gly	Ala	Pro	Gly	Arg	Asp	Ala	Arg	Asp
		35					40					45			
Pro	Asp	Cys	Gly	Phe	Ser	Trp	Pro	Leu	Pro	Glu	Phe	Asp	Pro	Ser	Gln
	50					55				60					
Ile	Arg	Leu	Ile	Val	Tyr	Gln	Asp	Cys	Glu	Arg	Arg	Gly	Arg	Asn	Val
65					70					75				80	
Leu	Phe	Asp	Ser	Ser	Val	Lys	Arg	Arg	Asn	Glu	Asp	Ile	Ser	Val	Ser
				85					90					95	
Asp	Leu	Asn	Thr	Ile	Tyr	Ser	Tyr	Leu	His	Gly	Met	Glu	Ile	Leu	Ser
			100					105					110		
Asn	Leu	Arg	Glu	His	Gln	Leu	Arg	Leu	Met	Ser	Ala	Arg	Ala	Arg	Tyr
		115					120					125			
Glu	Arg	Tyr	Ser	Gly	Asn	Gln	Val	Leu	Phe	Cys	Ser	Glu	Thr	Ile	Ala
	130					135					140				
Arg	Cys	Trp	Tyr	Ile	Leu	Leu	Ser	Gly	Ser	Val	Leu	Val	Lys	Gly	Ser
145					150					155					160
Met	Val	Leu	Pro	Pro	Cys	Ser	Phe	Gly	Lys	Gln	Phe	Gly	Gly	Lys	Arg
				165					170					175	
Gly	Cys	Asp	Cys	Leu	Val	Leu	Glu	Pro	Ser	Glu	Met	Ile	Val	Val	Glu

180										185					190				
Asn	Ala	Lys	Asp	Asn	Glu	Asp	Ser	Ile	Leu	Gln	Arg	Glu	Ile	Pro	Ala				
195										200					205				
Arg	Gln	Ser	Arg	Arg	Arg	Phe	Arg	Lys	Ile	Asn	Tyr	Lys	Gly	Glu	Arg				
210										215					220				
Gln	Thr	Ile	Thr	Asp	Asp	Val	Glu	Val	Asn	Ser	Tyr	Leu	Ser	Leu	Pro				
225										230					235				
Ala	Asp	Leu	Thr	Lys	Met	His	Leu	Thr	Glu	Asn	Pro	His	Pro	Gln	Val				
245										250					255				
Thr	His	Val	Ser	Ser	Ser	Gln	Ser	Gly	Cys	Ser	Ile	Ala	Ser	Asp	Ser				
260										265					270				
Gly	Ser	Ser	Ser	Leu	Ser	Asp	Ile	Tyr	Gln	Ala	Thr	Glu	Ser	Glu	Val				
275										280					285				
Gly	Asp	Val	Asp	Leu	Thr	Arg	Leu	Pro	Glu	Gly	Pro	Val	Asp	Ser	Glu				
290										295					300				
Asp	Asp	Glu	Glu	Glu	Asp	Glu	Glu	Ile	Asp	Arg	Thr	Asp	Pro	Leu	Gln				
305										310					315				
Gly	Arg	Asp	Leu	Val	Arg	Glu	Cys	Leu	Glu	Lys	Glu	Pro	Ala	Asp	Lys				
325										330					335				
Thr	Asp	Asp	Asp	Ile	Glu	Gln	Leu	Leu	Glu	Phe	Met	His	Gln	Leu	Pro				
340										345					350				
Ala	Phe	Ala	Asn	Met	Thr	Met	Ser	Val	Arg	Arg	Glu	Leu	Cys	Ser	Val				
355										360					365				
Met	Ile	Phe	Glu	Val	Val	Glu	Gln	Ala	Gly	Ala	Ile	Ile	Leu	Glu	Asp				
370										375					380				
Gly	Gln	Glu	Leu	Asp	Ser	Trp	Tyr	Val	Ile	Leu	Asn	Gly	Thr	Val	Glu				
385										390					395				
Ile	Ser	His	Pro	Asp	Gly	Lys	Val	Glu	Asn	Leu	Phe	Met	Gly	Asn	Ser				
405										410					415				
Phe	Gly	Ile	Thr	Pro	Thr	Leu	Asp	Lys	Gln	Tyr	Met	His	Gly	Ile	Val				
420										425					430				
Arg	Thr	Lys	Val	Asp	Asp	Cys	Gln	Phe	Val	Cys	Ile	Ala	Gln	Gln	Asp				
435										440					445				
Tyr	Trp	Arg	Ile	Leu	Asn	His	Val	Glu	Lys	Asn	Thr	His	Lys	Val	Glu				
450										455					460				
Glu	Glu	Gly	Glu	Ile	Val	Met	Val	His	Glu	His	Arg	Glu	Leu	Asp	Arg				
465										470					475				
Ser	Gly	Thr	Arg	Lys	Gly	His	Ile	Val	Ile	Lys	Ala	Thr	Pro	Glu	Arg				
485										490					495				
Leu	Ile	Met	His	Leu	Ile	Glu	Glu	His	Ser	Ile	Val	Asp	Pro	Thr	Tyr				
500										505					510				
Ile	Glu	Asp	Phe	Leu	Leu	Thr	Tyr	Arg	Thr	Phe	Leu	Glu	Ser	Pro	Leu				
515										520					525				
Asp	Val	Gly	Ile	Lys	Leu	Leu	Glu	Trp	Phe	Lys	Ile	Asp	Ser	Leu	Arg				
530										535					540				
Asp	Lys	Val	Thr	Arg	Ile	Val	Leu	Leu	Trp	Val	Asn	Asn	His	Phe	Asn				
545										550					555				
Asp	Phe	Glu	Gly	Asp	Pro	Ala	Met	Thr	Arg	Phe	Leu	Glu	Glu	Phe	Glu				
565										570					575				
Lys	Asn	Leu	Glu	Asp	Thr	Lys	Met	Asn	Gly	His	Leu	Arg	Leu	Leu	Asn				
580										585					590				
Ile	Ala	Cys	Ala	Ala	Lys	Ala	Lys	Trp	Arg	Gln	Val	Val	Leu	Gln	Lys				
595										600					605				
Ala	Ser	Arg	Glu	Ser	Pro	Leu	Gln	Phe	Ser	Leu									

610	615	620
Lys Gly Phe Gly Ile Phe Val Glu Gly Val Glu Pro Gly Ser Lys Ala		
625	630	635
Ala Asp Ser Gly Leu Lys Arg Gly Asp Gln Ile Met Glu Val Asn Gly		640
	645	650
Gln Asn Phe Glu Asn Ile Thr Phe Met Lys Ala Val Glu Ile Leu Arg		655
	660	665
Asn Asn Thr His Leu Ala Leu Thr Val Lys Thr Asn Ile Phe Val Phe		670
	675	680
Lys Glu Leu Leu Phe Arg Thr Glu Gln Glu Lys Ser Gly Val Pro His		685
	690	695
Ile Pro Lys Ile Ala Glu Lys Lys Ser Asn Arg His Ser Ile Gln His		700
705	710	715
Val Pro Gly Asp Ile Glu Gln Thr Ser Gln Glu Lys Gly Ser Lys Lys		720
	725	730
Val Lys Ala Asn Thr Val Ser Gly Gly Arg Asn Lys Ile Arg Lys Ile		735
	740	745
Leu Asp Lys Thr Arg Phe Ser Ile Leu Pro Pro Lys Leu Phe Ser Asp		750
	755	760
Gly Gly Leu Ser Gln Ser Gln Asp Asp Ser Ile Val Gly Thr Arg His		765
	770	775
Cys Arg His Ser Leu Ala Ile Met Pro Ile Pro Gly Thr Leu Ser Ser		780
785	790	795
Ser Ser Pro Asp Leu Leu Gln Pro Thr Thr Ser Met Leu Asp Phe Ser		800
	805	810
Asn Pro Ser Asp Ile Pro Asp Gln Val Ile Arg Val Phe Lys Val Asp		815
	820	825
Gln Gln Ser Cys Tyr Ile Ile Ile Ser Lys Asp Thr Thr Ala Lys Glu		830
	835	840
Val Val Phe His Ala Val His Glu Phe Gly Leu Thr Gly Ala Ser Asp		845
	850	855
Thr Tyr Ser Leu Cys Glu Val Ser Val Thr Pro Glu Gly Val Ile Lys		860
865	870	875
Gln Arg Arg Leu Pro Asp Gln Phe Ser Lys Leu Ala Asp Arg Ile Gln		880
	885	890
Leu Asn Gly Arg Tyr Tyr Leu Lys Asn Asn Met Glu Thr Glu Thr Leu		895
	900	905
Cys Ser Asp Glu Asp Ala Gln Glu Leu Val Lys Glu Ser Gln Leu Ser		910
	915	920
Met Leu Gln Leu Ser Thr Ile Glu Val Ala Thr Gln Leu Ser Met Arg		925
	930	935
Asp Phe Asp Leu Phe Arg Asn Ile Glu Pro Thr Glu Tyr Ile Asp Asp		940
945	950	955
Leu Phe Lys Leu Asn Ser Lys Thr Gly Asn Thr His Leu Lys Arg Phe		960
	965	970
Glu Asp Ile Val Asn Gln Glu Thr Phe Trp Val Ala Ser Glu Ile Leu		975
	980	985
Thr Glu Ala Asn Gln Leu Lys Arg Met Lys Ile Ile Lys His Phe Ile		990
	995	1000
Lys Ile Ala Leu His Cys Arg Glu Cys Lys Asn Phe Asn Ser Met Phe		1005
1010	1015	1020
Ala Ile Ile Ser Gly Leu Asn Leu Ala Ser Val Ala Arg Leu Arg Gly		1025
	1030	1035
Thr Trp Glu Lys Leu Pro Ser Lys Tyr Glu Lys His Leu Gln Asp Leu		1040

1045 1050 1055  
 Gln Asp Ile Phe Asp Pro Ser Arg Asn Met Ala Lys Tyr Arg Asn Ile  
 1060 1065 1070  
 Leu Ser Ser Gln Ser Met Gln Pro Pro Ile Ile Pro Leu Phe Pro Val  
 1075 1080 1085  
 Val Lys Lys Asp Met Thr Phe Leu His Glu Gly Asn Asp Ser Lys Val  
 1090 1095 1100  
 Asp Gly Leu Val Asn Phe Glu Lys Leu Arg Met Ile Ser Lys Glu Ile  
 1105 1110 1115 1120  
 Arg Gln Val Val Arg Met Thr Ser Ala Asn Met Asp Pro Ala Met Met  
 1125 1130 1135  
 Phe Arg Gln Arg Ser Leu Ser Gln Gly Ser Thr Asn Ser Asn Met Leu  
 1140 1145 1150  
 Asp Val Gln Gly Gly Ala His Lys Lys Arg Ala Arg Arg Ser Ser Leu  
 1155 1160 1165  
 Leu Asn Ala Lys Lys Leu Tyr Glu Asp Ala Gln Met Ala Arg Lys Val  
 1170 1175 1180  
 Lys Gln Tyr Leu Ser Ser Leu Asp Val Glu Thr Asp Glu Glu Lys Phe  
 1185 1190 1195 1200  
 Gln Met Met Ser Leu Gln Trp Glu Pro Ala Tyr Gly Thr Leu Thr Lys  
 1205 1210 1215  
 Asn Leu Ser Glu Lys Arg Ser Ala Lys Xaa Ser Ser Glu Met Ser Pro  
 1220 1225 1230  
 Val Pro Met Arg Ser Ala Gly Gln Thr Thr Lys Ala His Leu His Gln  
 1235 1240 1245  
 Pro His Arg Val Ser Gln Val Leu Gln Val Pro Ala Val Asn Leu His  
 1250 1255 1260  
 Pro Ile Arg Lys Lys Gly Gln Thr Lys Asp Pro Ala Leu Asn Thr Ser  
 1265 1270 1275 1280  
 Leu Pro Gln Lys Val Leu Gly Thr Thr Glu Glu Ile Ser Gly Lys Lys  
 1285 1290 1295  
 His Thr Glu Asp Thr Ile Ser Val Ala Ser Ser Leu His Ser Ser Pro  
 1300 1305 1310  
 Pro Ala Ser Pro Gln Gly Ser Pro His Lys Gly Tyr Thr Leu Ile Pro  
 1315 1320 1325  
 Ser Ala Lys Ser Asp Asn Leu Ser Asp Ser Ser His Ser Glu Ile Ser  
 1330 1335 1340  
 Ser Arg Ser Ser Ile Val Ser Asn Cys Ser Val Asp Ser Met Ser Ala  
 1345 1350 1355 1360  
 Ala Leu Gln Asp Glu Arg Cys Ser Ser Gln Ala Leu Ala Val Pro Glu  
 1365 1370 1375  
 Ser Thr Gly Ala Leu Glu Lys Thr Glu His Ala Ser Gly Ile Gly Asp  
 1380 1385 1390  
 His Ser Gln His Gly Pro Gly Trp Thr Leu Leu Lys Pro Ser Leu Ile  
 1395 1400 1405  
 Lys Cys Leu Ala Val Ser Ser Val Ser Asn Glu Glu Ile Ser Gln  
 1410 1415 1420  
 Glu His Ile Ile Ile Glu Ala Ala Asp Ser Gly Arg Gly Ser Trp Thr  
 1425 1430 1435 1440  
 Ser Cys Ser Ser Ser Ser His Asp Asn Phe Gln Ser Leu Pro Asn Pro  
 1445 1450 1455  
 Lys Ser Trp Asp Phe Leu Asn Ser Tyr Arg His Thr His Leu Asp Asp  
 1460 1465 1470  
 Pro Ile Ala Glu Val Glu Pro Thr Asp Ser Glu Pro Tyr Ser Cys Ser

1475                      1480                      1485  
 Lys Ser Cys Ser Arg Thr Cys Gly Gln Cys Lys Gly Ser Leu Glu Arg  
 1490                      1495                      1500  
 Lys Ser Trp Thr Ser Ser Ser Ser Leu Ser Asp Thr Tyr Glu Pro Asn  
 1505                      1510                      1515                      1520  
 Tyr Gly Thr Val Lys Arg Arg Val Leu Glu Ser Thr Pro Ala Glu Ser  
 1525                      1530                      1535  
 Ser Glu Gly Leu Asp Pro Lys Asp Ala Thr Asp Pro Val Tyr Lys Thr  
 1540                      1545                      1550  
 Val Thr Ser Ser Thr Glu Lys Gly Leu Ile Val Tyr Cys Val Thr Ser  
 1555                      1560                      1565  
 Pro Lys Lys Asp Asp Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly  
 1570                      1575                      1580  
 Tyr Leu Gly Ile Ser Leu Ala Asp Leu Lys Glu Gly Pro His Thr His  
 1585                      1590                      1595                      1600  
 Leu Lys Pro Pro Asp Tyr Ser Val Ala Val Gln Arg Ser Lys Met Met  
 1605                      1610                      1615  
 His Asn Ser Leu Ser Arg Leu Pro Pro Ala Ser Leu Ser Ser Asn Leu  
 1620                      1625                      1630  
 Glu Ala Cys Val Pro Ser Lys Ile Val Thr Gln Pro Gln Arg His Asn  
 1635                      1640                      1645  
 Leu Gln Pro Phe His Pro Lys Leu Gly Asp Val Thr Asp Ala Asp Ser  
 1650                      1655                      1660  
 Glu Ala Asp Glu Asn Glu Gln Val Ser Ala Val  
 1665                      1670                      1675

&lt;210&gt; 4845

&lt;211&gt; 3286

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4845

nccgccgccc gggcccccg catgcagccc cggctgcgga ggtgacactc acggacctta  
 60  
 gccaccgccc cgcgccatcgc caccatggac gaacaggagg cattgaactc aatcatgaac  
 120  
 gatctggtgg ccctccagat gaaccgacgt caccggatgc ctggatatga gaccatgaag  
 180  
 aacaaagaca caggtcactc aaataggcag agtgacgtca gaatcaagtt cgagcacaac  
 240  
 ggggagagggc gaattatagc gttcagccgg cctgtgaaat atgaagatgt ggagcacaag  
 300  
 gtgacaacag tatttggaac acctcttgat ctacattaca tgaacaatga gctctccatc  
 360  
 ctgctgaaaa accaagatga tcttgataaa gcaattgaca ttttagatag aagctcaagc  
 420  
 atgaaaagcc ttaggatatt gctgttggtc caggacagaa accataacag ttcctctccc  
 480  
 cactctgggg tgtccagaca ggtgcggatc aaggcttccc agtccgcagg ggatataaat  
 540  
 actatctacc agccccccga gccagaagc aggcacctct ctgtcagctc ccagaacct  
 600  
 ggccgaagct cacctccccc tggtatggt cctgagcggc agcagcacat tgccccgcag  
 660

gggtcctaca ccagcatcaa cagtgagggg gagttcatcc cagagaccag cgagcagtgc  
720  
atgctggatc ccctgagcag tgcagaaaat tccttgtctg gaagctgcca atccttggac  
780  
aggtcagcag acagcccatc cttccggaaa tcacgaatgt cccgtgccca gagcttccct  
840  
gacaacagac aggaatactc agatcgggaa actcagcttt atgacaaagg ggtcaaagg  
900  
ggaacctacc cccggcgcta ccacgtgtct gtgcaccaca aggactacag tgatggcaga  
960  
agaacatttc cccgaatacg gcgtcatcaa ggcaacttgt tcaccctggg gccctccagc  
1020  
cgctccctga gcacaaatgg cgagaacatg ggtctggctg tgcaatacct ggacccccgt  
1080  
gggcgctgc ggagtgcgga cagcgagaat gccctctctg tgcaggagag gaatgtgcc  
1140  
accaagtctc ccagtgcgcc catcaactgg cgccggggaa agctcctggg ccagggtgcc  
1200  
ttcggcaggg tctatttgtg ctatgacgtg gacacgggac gtgaacttgc ttccaagcag  
1260  
gtccaatttg atccagacag tcctgagaca agcaaggagg tgagtgtctt ggagtgcgag  
1320  
atccagttgc taaagaactt gcagcatgag cgcacgtgc agtactatgg ctgtctgcgg  
1380  
gaccgcgctg agaagaccct gaccatcttc atggagtaca tgccaggggg ctcggtgaaa  
1440  
gaccagttga aggcttacgg tgctctgaca gagagcgtga cccgaaagta cacgcggcag  
1500  
atcctggagg gcatgtccta cctgcacagc aacatgattg ttcaccggga cattaagga  
1560  
gccaacatcc tccgagactc tgctgggaat gtaaagctgg gggactttgg ggccagcaaa  
1620  
cgctgcaga cgatctgtat gtcggggacg ggcatgcgct ccgtcactgg cacaccctac  
1680  
tggtatgagc ctgaggtgat cagcggcgag ggctatggaa ggaaagcaga cgtgtggagc  
1740  
ctgggctgca ctgtggtgga gatgtgaca gagaaccac cgtgggcaga gtatgaagct  
1800  
atggccgcca tcttcaagat tgccaccag cccaccaatc ctcagctgcc ctcccacatc  
1860  
tctgaacatg gccgggactt cctgaggcgc atttttgtgg aggctcgcca gagaccttca  
1920  
gctgaggagc tgctcacaca ccactttgca cagctcatgt actgagctct cacggccaca  
1980  
cagctgccgg tcgccctttg ctgcatggca gggggctgct gctgggctca gtgaagtgc  
2040  
tgcttctccc aggcaaggct gtggaccatg gagtggcagc ccagccagcg tcggtctgtg  
2100  
ccccttccgc cactggggct cagagccggg gtggggtggc tgcagcctca ggactgggag  
2160  
ccccagcct gtcagatcca ggagctccag tgcctgagc tcagcgtgga ggggtagggg  
2220  
ctgggaacag tgtgcaaggc agccgtgggc cccaccctcg gggatgtgtc ctgacactgc  
2280

aattggcacc gaagcccaga gggctctgggg gcacaagact gacgccaggg tatgaagagt  
2340  
gttattttca ttcaaagtgt tattttgttt ttccttccaa tgtctggaga ccaccagggc  
2400  
atctctgggc tggatgagct cccacaagcc tgagggaaag gccagcactc gctagcagt  
2460  
gcaggcagag gcccaggctg ccgtccccta gagtcccagg ttggctctgc cagtctctgc  
2520  
ctttacaaaa gatgaatgaa gcaaagtca tgctgcctta ttcaggggaag gaggagcctg  
2580  
tcctgcctgt ggccatgacc ctgcctctcc caggcagggg ccgcgatgt ggaactgctg  
2640  
ccactgaggg gggatccagt tttgtcaatg cagttgtctc tgttttacia gttggagtca  
2700  
ctcttatgct gtaccagtt tctaaactgg agactgtgtg tgccctctgg gctctgagta  
2760  
cccctgcttt gggcttgggc ctaggctgca ttgaaaagag ctgaagggtg tggcctttgc  
2820  
gtccttgccc cagcctttgt tcccactgg agcagaaggg gagatggacg acacggtggg  
2880  
ggcatctggc ctggccagtg cctgatccc agagagcccg aggaggtgtc tcaggctgcc  
2940  
tgagtcgtga cctgctaggg cagagcccac tccatctggt agaagggaaa gcccatatgc  
3000  
taccaccagc tgtgtccaaa accgccagct ctgttcttcc tcagccagcc tcgcccaccc  
3060  
ccttgaggtc tcagcccctt tcccttgtag ctctcccct ggagggggaa tggcagcagg  
3120  
ggttggggaa acagcatctc caagcagctt agagttggcc atatttacct cagcctgggc  
3180  
gctggtcctt tcttcggcc cctcccctcc aaaatgtgcc tattgctaga gtcctccct  
3240  
ctcaacaccc agtttccttg ggagttgtca ttaaaggaaa aaaaaa  
3286

&lt;210&gt; 4846

&lt;211&gt; 626

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4846

Met	Asp	Glu	Gln	Glu	Ala	Leu	Asn	Ser	Ile	Met	Asn	Asp	Leu	Val	Ala
1				5					10					15	
Leu	Gln	Met	Asn	Arg	Arg	His	Arg	Met	Pro	Gly	Tyr	Glu	Thr	Met	Lys
			20					25					30		
Asn	Lys	Asp	Thr	Gly	His	Ser	Asn	Arg	Gln	Ser	Asp	Val	Arg	Ile	Lys
		35					40					45			
Phe	Glu	His	Asn	Gly	Glu	Arg	Arg	Ile	Ile	Ala	Phe	Ser	Arg	Pro	Val
	50					55					60				
Lys	Tyr	Glu	Asp	Val	Glu	His	Lys	Val	Thr	Thr	Val	Phe	Gly	Gln	Pro
65				70					75					80	
Leu	Asp	Leu	His	Tyr	Met	Asn	Asn	Glu	Leu	Ser	Ile	Leu	Leu	Lys	Asn
			85					90						95	
Gln	Asp	Asp	Leu	Asp	Lys	Ala	Ile	Asp	Ile	Leu	Asp	Arg	Ser	Ser	Ser



			100					105					110			
Met	Lys	Ser	Leu	Arg	Ile	Leu	Leu	Leu	Ser	Gln	Asp	Arg	Asn	His	Asn	
		115					120					125				
Ser	Ser	Ser	Pro	His	Ser	Gly	Val	Ser	Arg	Gln	Val	Arg	Ile	Lys	Ala	
	130					135				140						
Ser	Gln	Ser	Ala	Gly	Asp	Ile	Asn	Thr	Ile	Tyr	Gln	Pro	Pro	Glu	Pro	
145					150					155					160	
Arg.	Ser	Arg	His	Leu	Ser	Val	Ser	Ser	Gln	Asn	Pro	Gly	Arg	Ser	Ser	
			165					170						175		
Pro	Pro	Pro	Gly	Tyr	Val	Pro	Glu	Arg	Gln	Gln	His	Ile	Ala	Arg	Gln	
			180					185					190			
Gly	Ser	Tyr	Thr	Ser	Ile	Asn	Ser	Glu	Gly	Glu	Phe	Ile	Pro	Glu	Thr	
	195						200					205				
Ser	Glu	Gln	Cys	Met	Leu	Asp	Pro	Leu	Ser	Ser	Ala	Glu	Asn	Ser	Leu	
	210					215					220					
Ser	Gly	Ser	Cys	Gln	Ser	Leu	Asp	Arg	Ser	Ala	Asp	Ser	Pro	Ser	Phe	
225					230					235					240	
Arg	Lys	Ser	Arg	Met	Ser	Arg	Ala	Gln	Ser	Phe	Pro	Asp	Asn	Arg	Gln	
			245					250						255		
Glu	Tyr	Ser	Asp	Arg	Glu	Thr	Gln	Leu	Tyr	Asp	Lys	Gly	Val	Lys	Gly	
		260						265					270			
Gly	Thr	Tyr	Pro	Arg	Arg	Tyr	His	Val	Ser	Val	His	His	Lys	Asp	Tyr	
	275						280					285				
Ser	Asp	Gly	Arg	Arg	Thr	Phe	Pro	Arg	Ile	Arg	Arg	His	Gln	Gly	Asn	
	290					295				300						
Leu	Phe	Thr	Leu	Val	Pro	Ser	Ser	Arg	Ser	Leu	Ser	Thr	Asn	Gly	Glu	
305					310					315					320	
Asn	Met	Gly	Leu	Ala	Val	Gln	Tyr	Leu	Asp	Pro	Arg	Gly	Arg	Leu	Arg	
			325					330						335		
Ser	Ala	Asp	Ser	Glu	Asn	Ala	Leu	Ser	Val	Gln	Glu	Arg	Asn	Val	Pro	
		340						345					350			
Thr	Lys	Ser	Pro	Ser	Ala	Pro	Ile	Asn	Trp	Arg	Arg	Gly	Lys	Leu	Leu	
	355						360					365				
Gly	Gln	Gly	Ala	Phe	Gly	Arg	Val	Tyr	Leu	Cys	Tyr	Asp	Val	Asp	Thr	
	370					375					380					
Gly	Arg	Glu	Leu	Ala	Ser	Lys	Gln	Val	Gln	Phe	Asp	Pro	Asp	Ser	Pro	
385					390					395					400	
Glu	Thr	Ser	Lys	Glu	Val	Ser	Ala	Leu	Glu	Cys	Glu	Ile	Gln	Leu	Leu	
			405					410					415			
Lys	Asn	Leu	Gln	His	Glu	Arg	Ile	Val	Gln	Tyr	Tyr	Gly	Cys	Leu	Arg	
		420						425					430			
Asp	Arg	Ala	Glu	Lys	Thr	Leu	Thr	Ile	Phe	Met	Glu	Tyr	Met	Pro	Gly	
	435															

530                      535                      540  
 Gly Arg Lys Ala Asp Val Trp Ser Leu Gly Cys Thr Val Val Glu Met  
 545                      550                      555                      560  
 Leu Thr Glu Lys Pro Pro Trp Ala Glu Tyr Glu Ala Met Ala Ala Ile  
                     565                      570                      575  
 Phe Lys Ile Ala Thr Gln Pro Thr Asn Pro Gln Leu Pro Ser His Ile  
                     580                      585                      590  
 Ser Glu His Gly Arg Asp Phe Leu Arg Arg Ile Phe Val Glu Ala Arg  
                     595                      600                      605  
 Gln Arg Pro Ser Ala Glu Glu Leu Leu Thr His His Phe Ala Gln Leu  
                     610                      615                      620  
 Met Tyr  
 625

<210> 4847

<211> 2804

<212> DNA

<213> Homo sapiens

<400> 4847

ccaacagcag cggagaaaacg tttctcttttc ctctcagttt gcgcacacca tggcggcccc  
 60  
 tgcccagcag actactcagc ctggcggcgg gaagcgcaaa ggcaaggctc agtatgtgct  
 120  
 ggccaagcgc gctcggcgct gcgacgctgg cgggccccgt cagctagagc ccgggctaca  
 180  
 gggcatcctc atcacctgca atatgaacga gcgcaagtgc gtggaggagg cctacagcct  
 240  
 cctcaacgaa tacggcgacg acatgtatgg gccagaaaag ttttatgcaa acagtttaca  
 300  
 gacaaggatc agcagccctc tggaagttag ggagaggatg atgatgcgga ggctgccttg  
 360  
 aagaaagaag ttggtgacat taaggcatct acagagatga ggttaagaag attccagtca  
 420  
 gtggaaagtg gagcaaataa cgttgtcttc atcaggacac ttgggataga gcctgagaaa  
 480  
 ttggtgcatc atattctcca ggatatgtac aaaaccaaga aaaagaagac tcgagttatt  
 540  
 ttgcgaatgt taccatctc aggcacatgc aaggcttttt tagaagatat gaaaaaatat  
 600  
 gcagaaacat ttttgaacc ctggttttaa gctccaaaca aaggacatt tcagattgtg  
 660  
 tacaaatctc gaaataacag tcatgtgaat agagaagaag ttatcagaga attggcagga  
 720  
 atagtgtgca ccctcaattc agaaaataaa gtggatctca ccaatccaca gtacacagtg  
 780  
 gtagtagaaa tcatcaaagc tgtctgttgc ctgagtgttg tgaaagatta catgttgttt  
 840  
 agaaaataca atctccagga ggtggtgaag agccctaagg atccgtcaca gcttaactca  
 900  
 aagcaggga atgggaaaga agctaaactg gaatctgcgg acaaatcaga ccaaaacaac  
 960  
 acagcagaag gaaaaataa ccagcaggta ccagagaata ctgaggagct agggcagaca  
 1020

aaaccaacgt ctaatccaca ggtggtaaata gagggaggag ccaaacctga acttgcaagt  
1080  
caagccacag aaggatccaa gtcaaatgaa aatgacttct cataggaagt catttggtgt  
1140  
tggagctgac agtccagtgt cgcaattttg gaaggcaaga tgtgagagag acgagaacca  
1200  
ttttaggcat agaactacag acatttctga aaagggttgg gatgaagaac ttcagtcttc  
1260  
tgagtatact tcagtatact agtgcaacaa gggacacaaa gaaattctgt cttataaaag  
1320  
aaagctactt ctcaagggtt ttatgtggac tcagtccaag ctctcctgtc ccattgtgca  
1380  
ttgtctgtga catgcaactt acaaaaactag caattgtaac aataaatcac agccacttga  
1440  
caagaaagga tttcattat tttcaaatgg cttttggact atcaaaaaca gtaaggcttt  
1500  
tggtcagaaa tcacctttag tcaaaagggt taagaagcaa attatttagt agcagaactt  
1560  
atctcaggaa aggaaaatat gcatggttgg tgagaatcta ataacattaa aatgctgggg  
1620  
caagatgcag tacaaggtt aagagacttt attctcaata agttgattta ctgatgat  
1680  
gtcatatgat gcaaaaaagg ttttgtgtca ttaactgaaa agtagcagct tctctatcca  
1740  
ggatgatgag tcaacagggt tcaactaatat ttgtcatgct gtagcatttg taagatttgt  
1800  
aatgatgaa attcaaagaa aactttttct attgctagga gcctgccaga acaaaggcca  
1860  
atatataatg ttgtgacatc atatctgata accagagggtc tggatatctac actcctgggtg  
1920  
ccccatcagt ggttgtctcc ataagtcatt ttgcgttatt aaaaaaaaaa aaagaaatcc  
1980  
tgatgttgac attatagcac actgctttct ccacagagat gctgatatca aaaacttgaa  
2040  
gatacagtga agttctgaat aatgtttaca aactgggttac ctgtatcaaa gaccattta  
2100  
tgcaaaaatg ttaaaaaaaaa aaaacaccca aaacaaaaac ctggacagac agcacataaa  
2160  
cctcctgccc catacaaaca tccaggggct tctcaaagga agcggttctct acaggatatt  
2220  
tgaattgaaa ggtgaattgc cagagtactt acaataaaac agccagcttt tgctgagtgc  
2280  
tttggaatg aaaaatgact acagaaagta gcctattttg cagacgtttt tcatcacatg  
2340  
aacaatgga caagtctctg aaagggttctg gggaaaaaaa tttttcttaa agcgacaaga  
2400  
ctcttagatc taaaaggaaa ctgacttgcc accttgccag aggaattctt gaaatgttgc  
2460  
tgcagccact tggccttgaa aataaagggt gcaactctca agtcttggtc taacccggct  
2520  
ggaggaacca caagacccaa tgaaatagca ttttctctcc ttttccagc actagtatat  
2580  
aacctatgag gaacccttgt ctctgaatct gctcagcttg aaattttgtc tctgaaggaa  
2640

gagaatgaac tcagccctag tctgacagtc ctagatttct gtgaaataag agtattcttc  
 2700  
 aacttagtgc tcacactcac ataccatgag ggttctctgc aggggttttag gggtttcctg  
 2760  
 aattttaaag ttttttcaag gcctctttttt gggtaaaaca attg  
 2804

<210> 4848  
 <211> 242  
 <212> PRT  
 <213> Homo sapiens

<400> 4848  
 Met Arg Leu Arg Arg Phe Gln Ser Val Glu Ser Gly Ala Asn Asn Val  
 1 5 10 15  
 Val Phe Ile Arg Thr Leu Gly Ile Glu Pro Glu Lys Leu Val His His  
 20 25 30  
 Ile Leu Gln Asp Met Tyr Lys Thr Lys Lys Lys Lys Thr Arg Val Ile  
 35 40 45  
 Leu Arg Met Leu Pro Ile Ser Gly Thr Cys Lys Ala Phe Leu Glu Asp  
 50 55 60  
 Met Lys Lys Tyr Ala Glu Thr Phe Leu Glu Pro Trp Phe Lys Ala Pro  
 65 70 75 80  
 Asn Lys Gly Thr Phe Gln Ile Val Tyr Lys Ser Arg Asn Asn Ser His  
 85 90 95  
 Val Asn Arg Glu Glu Val Ile Arg Glu Leu Ala Gly Ile Val Cys Thr  
 100 105 110  
 Leu Asn Ser Glu Asn Lys Val Asp Leu Thr Asn Pro Gln Tyr Thr Val  
 115 120 125  
 Val Val Glu Ile Ile Lys Ala Val Cys Cys Leu Ser Val Val Lys Asp  
 130 135 140  
 Tyr Met Leu Phe Arg Lys Tyr Asn Leu Gln Glu Val Val Lys Ser Pro  
 145 150 155 160  
 Lys Asp Pro Ser Gln Leu Asn Ser Lys Gln Gly Asn Gly Lys Glu Ala  
 165 170 175  
 Lys Leu Glu Ser Ala Asp Lys Ser Asp Gln Asn Asn Thr Ala Glu Gly  
 180 185 190  
 Lys Asn Asn Gln Gln Val Pro Glu Asn Thr Glu Glu Leu Gly Gln Thr  
 195 200 205  
 Lys Pro Thr Ser Asn Pro Gln Val Val Asn Glu Gly Gly Ala Lys Pro  
 210 215 220  
 Glu Leu Ala Ser Gln Ala Thr Glu Gly Ser Lys Ser Asn Glu Asn Asp  
 225 230 235 240  
 Phe Ser

<210> 4849  
 <211> 321  
 <212> DNA  
 <213> Homo sapiens

<400> 4849  
 nccatgtgtg gaggcagaga ggcagcatcc aggcgctggt cctctcggga catgctgctg  
 60

ctgaagaaac acacggagga catcagcagc gtctacgaga tccgcgagag gctcggctcg  
 120  
 ggtgccttct ccgaggtggg gctggcccag gagcggggct ccgcacacct cgtggccctc  
 180  
 aagtgcattcc ccaagaaggc cctccggggc aaggaggccc tggaggagaa cgagatcgca  
 240  
 gtgctccgta ggatcagtc ccccaacatc gtcgctctgg aggatgtcca cgagagccct  
 300  
 tcccacctct acctggccat g  
 321

<210> 4850

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4850

Met	Leu	Leu	Leu	Lys	Lys	His	Thr	Glu	Asp	Ile	Ser	Ser	Val	Tyr	Glu
1				5				10					15		
Ile	Arg	Glu	Arg	Leu	Gly	Ser	Gly	Ala	Phe	Ser	Glu	Val	Val	Leu	Ala
				20				25					30		
Gln	Glu	Arg	Gly	Ser	Ala	His	Leu	Val	Ala	Leu	Lys	Cys	Ile	Pro	Lys
				35				40				45			
Lys	Ala	Leu	Arg	Gly	Lys	Glu	Ala	Leu	Val	Glu	Asn	Glu	Ile	Ala	Val
				50				55			60				
Leu	Arg	Arg	Ile	Ser	His	Pro	Asn	Ile	Val	Ala	Leu	Glu	Asp	Val	His
65					70					75				80	
Glu	Ser	Pro	Ser	His	Leu	Tyr	Leu	Ala	Met						
				85					90						

<210> 4851

<211> 820

<212> DNA

<213> Homo sapiens

<400> 4851

aagatctgag cgagtcgctg agctgagccc ggcaggggct ggggtgggtgc tgctgctatg  
 60  
 agttgcacca tcgagaagat cctgacagac gccaaagacgc tgctggagag gctacgggag  
 120  
 cacgatgcgg ccgccgagtc gctgggtggat cagtcggcgg cgctgcaccg gcgggtagca  
 180  
 gctatgcggg aggcggggac agcgcttccg gaccagtatc aagaggatgc atccgatatg  
 240  
 aaggacatgt ccaaatacaa acctcacatt ctgctgtccc aagagaacac acagattaga  
 300  
 gacttgcaac aggaaaacag agagctatgg atttccttgg aggaacacca ggatgctttg  
 360  
 gaacttatca tgagcaaata tcggaaacag atgttacagt taatgggtgc taaaaaagcg  
 420  
 gtggatgctg aaccagtcct gaaagctcac cagtctcact ctgcagaaat tgagagtcag  
 480  
 attgacagaa tctgtgaaat gggagaagtg atgaggaaag cagttcaggt ggatgatgac  
 540

cagttttgta agattcagga aaaattagcc caattagagc ttgaaaataa ggaacttcga  
 600  
 gaattattgt ccatcagcag tgagtctctt caagccagaa aggaaaactc aatggacact  
 660  
 gcttcccaag ccatcaaata actgaactct gaatgatggc tggagattgt ctatcaagga  
 720  
 aggaagttac tgtcttccca ttcaagtact gtccattaag tgtcttgccct cagatttgat  
 780  
 ttaatcttaa ttaaaggat caggtggcaa tttagaattc  
 820

<210> 4852

<211> 207

<212> PRT

<213> Homo sapiens

<400> 4852

Met	Ser	Cys	Thr	Ile	Glu	Lys	Ile	Leu	Thr	Asp	Ala	Lys	Thr	Leu	Leu
1				5				10						15	
Glu	Arg	Leu	Arg	Glu	His	Asp	Ala	Ala	Ala	Glu	Ser	Leu	Val	Asp	Gln
			20					25					30		
Ser	Ala	Ala	Leu	His	Arg	Arg	Val	Ala	Ala	Met	Arg	Glu	Ala	Gly	Thr
			35				40					45			
Ala	Leu	Pro	Asp	Gln	Tyr	Gln	Glu	Asp	Ala	Ser	Asp	Met	Lys	Asp	Met
			50			55					60				
Ser	Lys	Tyr	Lys	Pro	His	Ile	Leu	Leu	Ser	Gln	Glu	Asn	Thr	Gln	Ile
65					70					75				80	
Arg	Asp	Leu	Gln	Gln	Glu	Asn	Arg	Glu	Leu	Trp	Ile	Ser	Leu	Glu	Glu
			85						90					95	
His	Gln	Asp	Ala	Leu	Glu	Leu	Ile	Met	Ser	Lys	Tyr	Arg	Lys	Gln	Met
			100					105					110		
Leu	Gln	Leu	Met	Val	Ala	Lys	Lys	Ala	Val	Asp	Ala	Glu	Pro	Val	Leu
			115				120					125			
Lys	Ala	His	Gln	Ser	His	Ser	Ala	Glu	Ile	Glu	Ser	Gln	Ile	Asp	Arg
			130				135				140				
Ile	Cys	Glu	Met	Gly	Glu	Val	Met	Arg	Lys	Ala	Val	Gln	Val	Asp	Asp
145					150					155				160	
Asp	Gln	Phe	Cys	Lys	Ile	Gln	Glu	Lys	Leu	Ala	Gln	Leu	Glu	Leu	Glu
			165						170					175	
Asn	Lys	Glu	Leu	Arg	Glu	Leu	Leu	Ser	Ile	Ser	Ser	Glu	Ser	Leu	Gln
			180					185					190		
Ala	Arg	Lys	Glu	Asn	Ser	Met	Asp	Thr	Ala	Ser	Gln	Ala	Ile	Lys	
			195				200						205		

<210> 4853

<211> 1467

<212> DNA

<213> Homo sapiens

<400> 4853

ntgtgaggtc gcgttcccca gtgttacgga gggtccttga ggcaggagtg aaaattgggt  
 60  
 ctggggggtta gtcctggggt ggaggctctgg gcacgccggg tcggaccccc tccatcttcg  
 120

gttttgcaca ccccgctttc cagcgcggag tcgggcgggg gtagggcggc gtcgcgtgcg  
180  
tgacgtcatc cagcggcgcc atcggaggct ccagtggcct tgacctcccg cgtcgtgtag  
240  
gcctgcgcgg cgatgctgca gttcgtccgg gccggggcgc gggcctggct tcggcctacc  
300  
ggcagccagg gcctgagttc cctggcggaa gaggcagcgc gtgcgaccga gaacccggag  
360  
caggtggcga gcgaggggtct cccggagccc gtgctgcgca aagtcgagct cccggtaccc  
420  
actcatcgac gcccagtgca ggcctgggtc gagtccttgc ggggcttcga gcaggagcgc  
480  
gtgggcctgg ccgacctgca ccccgatggt ttcgccaccg cgcccaggct ggacatactg  
540  
caccaggttg ctatgtggca gaagaacttc aagagaatta gctatgcaa gaccaagacg  
600  
agagccgagg tgcggggcgg tggccggaag cctntggccg cagaaaggca ctgggcgggc  
660  
ccggcatggc agcatccgct ctccgctctg gcgaggagga ggtgttgccc atggcccccg  
720  
ggccccacaa gttactacta catgctgccc atgaagggtc gggcgctggg tctcaaagt  
780  
gcactgaccg tcaagctggc ccaggacgac ctgcacatca tggactccct agagctgccc  
840  
accggagacc cacagtacct gacagagctg ggcactacc gccgctgggg ggactccgta  
900  
ctcctcgtgg acttaacaca cgaggagatg ccacagagca tcgtggaggc cacctctagg  
960  
cttaagacct tcaacttgat cccggctggt ggcctaaatg tgcacagcat gctcaagcac  
1020  
cagacgtgg tccgtacgct gccaccgct gccttccctg aggacaagct gctctggcag  
1080  
gactcacgtt acagaccctt ctacccttcc agcctgccct acagcgactt cccccgacc  
1140  
ctaccacag ctaccaggg cccagcggcc acccgtacc actgttgatg tgaagcacct  
1200  
cttctgagcc aggcagagcc cctggccgac ttgggagcct taggcccacg cccaccctt  
1260  
gaggaaggtg tcacctggac cccttcattc cacggaggaa gctgaggcca caggagcgg  
1320  
ccatcgccat tgggaagggg cgactccacg gagagcccag acggggcttc tgcattccatt  
1380  
ccctcttttt gtttttaaaa taaattgtat ttttgaatca aaaaaaaaaa aaaaaaaaaa  
1440  
aaaaaaaaaa aaaaaaaaaa aaaaaaa  
1467

&lt;210&gt; 4854

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4854

Met Leu Gln Phe Val Arg Ala Gly Ala Arg Ala Trp Leu Arg Pro Thr

1                      5                      10                      15  
 Gly Ser Gln Gly Leu Ser Ser Leu Ala Glu Glu Ala Ala Arg Ala Thr  
                     20                      25                      30  
 Glu Asn Pro Glu Gln Val Ala Ser Glu Gly Leu Pro Glu Pro Val Leu  
                     35                      40                      45  
 Arg Lys Val Glu Leu Pro Val Pro Thr His Arg Arg Pro Val Gln Ala  
                     50                      55                      60  
 Trp Val Glu Ser Leu Arg Gly Phe Glu Gln Glu Arg Val Gly Leu Ala  
 65                      70                      75                      80  
 Asp Leu His Pro Asp Val Phe Ala Thr Ala Pro Arg Leu Asp Ile Leu  
                     85                      90                      95  
 His Gln Val Ala Met Trp Gln Lys Asn Phe Lys Arg Ile Ser Tyr Ala  
                     100                      105                      110  
 Lys Thr Lys Thr Arg Ala Glu Val Arg Gly Gly Gly Arg Lys Pro Xaa  
                     115                      120                      125  
 Ala Ala Glu Arg His Trp Ala Gly Pro Ala Trp Gln His Pro Leu Ser  
                     130                      135                      140  
 Ala Leu Ala Arg Arg Arg Cys Cys Pro Trp Pro Pro Gly Pro Thr Ser  
 145                      150                      155                      160  
 Tyr Tyr Tyr Met Leu Pro Met Lys Val Arg Ala Leu Gly Leu Lys Val  
                     165                      170                      175  
 Ala Leu Thr Val Lys Leu Ala Gln Asp Asp Leu His Ile Met Asp Ser  
                     180                      185                      190  
 Leu Glu Leu Pro Thr Gly Asp Pro Gln Tyr Leu Thr Glu Leu Ala His  
                     195                      200                      205  
 Tyr Arg Arg Trp Gly Asp Ser Val Leu Leu Val Asp Leu Thr His Glu  
                     210                      215                      220  
 Glu Met Pro Gln Ser Ile Val Glu Ala Thr Ser Arg Leu Lys Thr Phe  
 225                      230                      235                      240  
 Asn Leu Ile Pro Ala Val Gly Leu Asn Val His Ser Met Leu Lys His  
                     245                      250                      255  
 Gln Thr Leu Val Leu Thr Leu Pro Thr Val Ala Phe Leu Glu Asp Lys  
                     260                      265                      270  
 Leu Leu Trp Gln Asp Ser Arg Tyr Arg Pro Leu Tyr Pro Phe Ser Leu  
                     275                      280                      285  
 Pro Tyr Ser Asp Phe Pro Arg Pro Leu Pro His Ala Thr Gln Gly Pro  
                     290                      295                      300  
 Ala Ala Thr Pro Tyr His Cys  
 305                      310

&lt;210&gt; 4855

&lt;211&gt; 750

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4855

nncgcaggag taacctactt ggtctcctgc tttcgcgaca tggccttcaa ttttggggct  
 60  
 ccctcgggca cctccgttac cgctgcagcc acccgggccc ccgcggtgg gtttggagga  
 120  
 tttgggacaa catctacaac tgcaggttct gcattcagct tttctgcccc aactaacaca  
 180  
 ggcactactg gactcttttg tggtactcag aacaaagggt ttggatttgg tactggtttt  
 240



ggcacaacaa cgggaactag tactgggtta ggtactggtt tgggaactgg actgggattt  
 300  
 ggaggattta atacacagca gcagcagcag caaactacat taggtggtct cttcagtcag  
 360  
 cctacacaag ctccatccca gtccaaccag ctgataaata ctgcgagtgc tctttctgct  
 420  
 ccaacgctgt tgggagatga gagagatgct attttggtcaa aatggaatca actgcaggcc  
 480  
 ttttggggaa caggaaaagg gtatttcaac aataatattc cgccagtggg attcacacaa  
 540  
 gaaaatccct tttgccgatt taaggcagta gggttatagtt gcatgcccag taataaagat  
 600  
 gaagacgggc tagtggtttt agttttcaac aaaaaagaaa cagagattcg aagccaacaa  
 660  
 caacagttgg tagaatcatt gcataaagtt ttgggaggaa accagaccct tactgtaaat  
 720  
 gtagagggca ctaaaacatt gccagatgat  
 750

&lt;210&gt; 4856

&lt;211&gt; 237

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4856

Met	Ala	Phe	Asn	Phe	Gly	Ala	Pro	Ser	Gly	Thr	Ser	Gly	Thr	Ala	Ala
1			5						10					15	
Ala	Thr	Ala	Ala	Pro	Ala	Gly	Gly	Phe	Gly	Gly	Phe	Gly	Thr	Thr	Ser
		20					25						30		
Thr	Thr	Ala	Gly	Ser	Ala	Phe	Ser	Phe	Ser	Ala	Pro	Thr	Asn	Thr	Gly
		35				40						45			
Thr	Thr	Gly	Leu	Phe	Gly	Gly	Thr	Gln	Asn	Lys	Gly	Phe	Gly	Phe	Gly
		50				55					60				
Thr	Gly	Phe	Gly	Thr	Thr	Thr	Gly	Thr	Ser	Thr	Gly	Leu	Gly	Thr	Gly
65					70					75				80	
Leu	Gly	Thr	Gly	Leu	Gly	Phe	Gly	Gly	Phe	Asn	Thr	Gln	Gln	Gln	Gln
			85					90					95		
Gln	Gln	Thr	Thr	Leu	Gly	Gly	Leu	Phe	Ser	Gln	Pro	Thr	Gln	Ala	Pro
		100					105						110		
Thr	Gln	Ser	Asn	Gln	Leu	Ile	Asn	Thr	Ala	Ser	Ala	Leu	Ser	Ala	Pro
		115				120							125		
Thr	Leu	Leu	Gly	Asp	Glu	Arg	Asp	Ala	Ile	Leu	Ala	Lys	Trp	Asn	Gln
		130				135					140				
Leu	Gln	Ala	Phe	Trp	Gly	Thr	Gly	Lys	Gly	Tyr	Phe	Asn	Asn	Asn	Ile
145				150					155					160	
Pro	Pro	Val	Glu	Phe	Thr	Gln	Glu	Asn	Pro	Phe	Cys	Arg	Phe	Lys	Ala
			165						170					175	
Val	Gly	Tyr	Ser	Cys	Met	Pro	Ser	Asn	Lys	Asp	Glu	Asp	Gly	Leu	Val
		180						185					190		
Val	Leu	Val	Phe	Asn	Lys	Lys	Glu	Thr	Glu	Ile	Arg	Ser	Gln	Gln	Gln
		195				200							205		
Gln	Leu	Val	Glu	Ser	Leu	His	Lys	Val	Leu	Gly	Gly	Asn	Gln	Thr	Leu
		210				215						220			
Thr	Val	Asn	Val	Glu	Gly	Thr	Lys	Thr	Leu	Pro	Asp	Asp			

225

230

235

&lt;210&gt; 4857

&lt;211&gt; 2887

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4857

```

nncggccggc gagggcagat ggaagagtat gaggaagagc cctctcgggg gtggtggcgg
60
ctcgggagct ccagtcaggc cgctgcctc aaacagatcc ttctgctgca attggacctc
120
atcgaacagc agcagcagca gctgcaggcc aaggaaaagg agatcgagga gctgaagtca
180
gagagagaca cgctccttgc tcggattgaa cgtatggaaa ggcggatgca gctggtaaag
240
aaggataacg agaaagaaag gcacaagctg tttcagggtc atgaaactga agagagagag
300
gaaacagagc tatctgagaa aattaaactg gagtgccagc cggagctttc cgagacatcc
360
cagactctgc ctcccaagcc cttctcatgt gggcggagtg gaaagggaca taaaaggaaa
420
tccccatttg gaagtacaga aagaaagact cctgttaaaa agctggctcc tgaattttca
480
aaagtcaaaa caaaaactcc taagcactct cctattaaag aggaaccctg tggttcctta
540
tctgaaactg tttgtaaagc tgaattgagg agccaagaaa cccagaaaaa gccccggtct
600
tcagtggaca cccaccaag actctccact ccccaaaagg gaccagcac ccatccaag
660
gagaaagcct tctcaagtga gatagaagat ttgccgtacc tttccaccac agaaatgtat
720
ttgtgtcgtt ggcaccagcc tccccatca cgtttaccat tacgggaatc ctctccaaag
780
aaggaggaga ctgtagcaag taaggcatag agaacacttg ctcttatacc ctagtgtgtg
840
cgggtcaagct aacaagtgtg aaaatgcctt tggcattttt aaaaaagtgc aatcaataaa
900
gcagagttct gtcaagaatg agtaagttaa cagccagaga cagacactgt gcaggcattg
960
caaatagatg gaattacagc aaaatgtgct caatgtatct gctgcttac aacactggga
1020
gatgtgtttg ccagtaagtt gctcatcaca agagcaccag acttgggggt gtaatctccg
1080
gcaacttgca tgccctctga aagaagggtt ttctgtgctg tgaaatgcat agaactatac
1140
tttgccatgc acgactgttc ctgcaattga tattgtgtga aatctgggag ggtgggtctt
1200
gggtgttttc aggggccaat ggtaattttt ggggtgggga gccagcttgg ggtggggaat
1260
tttcacctgg gcctccgctc tttaactata taaacattta tctgtatata tatgtccctg
1320
tctggggggc aggaggaatc tgccaaagac caacagtctt actttatctt actatacttc
1380

```

acaaagggttc taaaatgtga agagtttgtt tgaaaaatag tttgtagacc attttattta  
1440  
aatatatgaa caaccaatgg gctactgcaa tccaagtaaa ctcttcacat tttagaacct  
1500  
ttgtgaagta tagtaagata aagtaagact gttggtcttt ggcagattcc tcctgcccc  
1560  
cagacagggga catagatata cagataaatg tttatatagt taaagagcgg aggcccagg  
1620  
gaaaattccc caccccaagc tggctcccca acccaaaaat taccattggc ccctgagaac  
1680  
accaaagac caccctccca gatttcacac aatatcaatt gcaggaacag tcgtgcatgg  
1740  
caaagtatag ttctatgcat ttcacagcac agaaaaccct tctttcagag ggcattgcaag  
1800  
ttgccggaga ttacaccccc aagtctggtg ctcttgatgat gagcaactta ctggcaaaca  
1860  
catctcccag tggtgtaagc aggcaaatac attgagcaca ttttgctgta attccatcta  
1920  
tttgcaatgc ctgcacagtg tctgtctctg gctgttaact tactcattct tgacagaact  
1980  
ctgctttatt gattgcactt ttttaaaaat gccaaaggca ttttcacact tgtagcttg  
2040  
accgccacca ctagggtata agagcaagtg ttctctatgc cttacttgct acagtctcct  
2100  
ccttcttttg agaggattcc cgtaatggta acggtgatgg gggaggctgg tgccaacgac  
2160  
acaaatacat ttctgtggtg gaaaggtagc gcaaactctc tatctcactt gagaaggctt  
2220  
tctccttggg atgggtgctg ggtccctttt ggggagtggg gagtcttggg ggggtgtcca  
2280  
ctgaagaccg gggcttttct ggggtttctt ggctcctcaa ttcacgttta caaacagttt  
2340  
cagataagga accacagggg tcctctttta taggagagtg cttaggagtt tttgttttga  
2400  
cttttgaaaa ttcaggagcc agctttttta caggagtctt tctttctgta cttccaaatg  
2460  
ggggtagaag tctaacecct ccaccccctc tcctccccag cagtcccacg cgggtatggg  
2520  
agagaatgaa gttctttgtc tctaagggat tcaaaccaga aacggaggga cctctggttc  
2580  
ccagagggag gaaaatccat gatgtctgct gccagggag ctattgccac cgcctccttg  
2640  
ggatgaagta ttgccagcta ccaacagttc cttcccaacg gccatcttcc agccttctta  
2700  
aacgactcct agcatcttcg ggaggctcct gaaggactga agcaaaggaa atctctgaag  
2760  
ggatttagtc cttgaaaggg agtagggata cttagggtgt tctgtgttga gcgcttcttc  
2820  
ctatctctcc agcttcatgt atgtgtgtct ttatgtccaa gcaattgagc caacaagtcc  
2880  
tcagaat  
2887

&lt;210&gt; 4858

<211> 269  
 <212> PRT  
 <213> Homo sapiens

<400> 4858  
 Xaa Gly Arg Arg Gly Gln Met Glu Glu Tyr Glu Glu Glu Pro Ser Arg  
 1 5 10 15  
 Gly Trp Trp Arg Leu Gly Ser Ser Ser Gln Ala Ala Cys Leu Lys Gln  
 20 25 30  
 Ile Leu Leu Leu Gln Leu Asp Leu Ile Glu Gln Gln Gln Gln Leu  
 35 40 45  
 Gln Ala Lys Glu Lys Glu Ile Glu Glu Leu Lys Ser Glu Arg Asp Thr  
 50 55 60  
 Leu Leu Ala Arg Ile Glu Arg Met Glu Arg Arg Met Gln Leu Val Lys  
 65 70 75 80  
 Lys Asp Asn Glu Lys Glu Arg His Lys Leu Phe Gln Gly Tyr Glu Thr  
 85 90 95  
 Glu Glu Arg Glu Glu Thr Glu Leu Ser Glu Lys Ile Lys Leu Glu Cys  
 100 105 110  
 Gln Pro Glu Leu Ser Glu Thr Ser Gln Thr Leu Pro Pro Lys Pro Phe  
 115 120 125  
 Ser Cys Gly Arg Ser Gly Lys Gly His Lys Arg Lys Ser Pro Phe Gly  
 130 135 140  
 Ser Thr Glu Arg Lys Thr Pro Val Lys Lys Leu Ala Pro Glu Phe Ser  
 145 150 155 160  
 Lys Val Lys Thr Lys Thr Pro Lys His Ser Pro Ile Lys Glu Glu Pro  
 165 170 175  
 Cys Gly Ser Leu Ser Glu Thr Val Cys Lys Arg Glu Leu Arg Ser Gln  
 180 185 190  
 Glu Thr Pro Glu Lys Pro Arg Ser Ser Val Asp Thr Pro Pro Arg Leu  
 195 200 205  
 Ser Thr Pro Gln Lys Gly Pro Ser Thr His Pro Lys Glu Lys Ala Phe  
 210 215 220  
 Ser Ser Glu Ile Glu Asp Leu Pro Tyr Leu Ser Thr Thr Glu Met Tyr  
 225 230 235 240  
 Leu Cys Arg Trp His Gln Pro Pro Pro Ser Pro Leu Pro Leu Arg Glu  
 245 250 255  
 Ser Ser Pro Lys Lys Glu Glu Thr Val Ala Ser Lys Ala  
 260 265

<210> 4859  
 <211> 689  
 <212> DNA  
 <213> Homo sapiens

<400> 4859  
 cctgctgagg acatgaggac ccgtcttttt gcagtgccag gcagggtggc caaagaggac  
 60  
 tggactctgg acctggagcc ccgtgggtcca gttcacattc accccacaag agtttcagga  
 120  
 ggcctccac ggtgcctgtg ctgggtggcg gtggtggtgc caagaggaat ggaatgtcct  
 180  
 gggctccttc aggagctctc taccagggg caaggagagc ccagagagaa gcgccttggt  
 240

ctcttgagct tctgatctg ctctgtccc ccgtctcct cactccctt gcctttccct  
 300  
 aggttgcccc ctccctgggc ttttgtgtg tttgggagat gtcacctaac caggacattg  
 360  
 atattcaatc ccatccccct tctcccacc ctgccccact ttgatttaat cctttggctg  
 420  
 tgggctgagg cctcccaggg aagttgggtg ggggtgggtg tgagaccccc tcagaccage  
 480  
 acagagacct gtccttgtgc agtctgcacc ctgcactccc tcccttgcct gtagatgttc  
 540  
 tggatgacag tagaggaaat ggacaaggtc agtttgaata tcccagaaca cagtgtcttg  
 600  
 tctcctccca ccagtccagt tagcttccct tctggaccaa tagacgaggg gagaccccat  
 660  
 ggatcctctg gctgggaagc acctgacca  
 689

<210> 4860

<211> 173

<212> PRT

<213> Homo sapiens

<400> 4860

Met	Arg	Thr	Arg	Leu	Phe	Ala	Val	Pro	Gly	Arg	Val	Ala	Lys	Glu	Asp
1				5					10					15	
Trp	Thr	Leu	Asp	Leu	Glu	Pro	Arg	Gly	Pro	Val	His	Ile	His	Pro	Thr
		20						25					30		
Arg	Val	Ser	Gly	Gly	Leu	Pro	Arg	Cys	Leu	Cys	Trp	Val	Ala	Val	Val
		35					40					45			
Val	Pro	Arg	Gly	Met	Glu	Cys	Pro	Gly	Leu	Leu	Gln	Glu	Leu	Ser	Thr
	50					55					60				
Gln	Gly	Gln	Gly	Glu	Pro	Arg	Glu	Lys	Arg	Pro	Gly	Leu	Leu	Ser	Phe
65				70					75					80	
Leu	Ile	Cys	Ser	Cys	Pro	Pro	Leu	Ser	Ser	Thr	Pro	Leu	Pro	Phe	Pro
			85						90					95	
Arg	Leu	Ser	Pro	Pro	Trp	Ala	Phe	Val	Cys	Phe	Gly	Arg	Cys	His	Leu
			100					105					110		
Thr	Arg	Thr	Leu	Ile	Phe	Asn	Pro	Ile	Pro	Leu	Pro	Pro	Thr	Leu	Pro
		115					120						125		
His	Phe	Asp	Leu	Ile	Leu	Trp	Leu	Trp	Ala	Glu	Ala	Ser	Gln	Gly	Ser
		130				135					140				
Trp	Val	Gly	Trp	Val	Leu	Arg	Pro	Pro	Gln	Thr	Ser	Thr	Glu	Thr	Cys
145					150					155					160
Pro	Cys	Ala	Val	Cys	Thr	Leu	His	Ser	Leu	Pro	Cys	Leu			
			165						170						

<210> 4861

<211> 1622

<212> DNA

<213> Homo sapiens

<400> 4861

ctgcagactt ccggcggcgc gctgcaggcg cggggaacac caatggcggg gtacttgaag  
 60

ctggtgtgtg tttcctttca gcgtcaaggg ttccacactg ttgggagtcg ctgcaagaat  
120.  
cggacaggcg ctgagcacct gtggctgacc cgacatctca gggacccatt tgtgaaggct  
180  
gcgaaggtgg agagttaccg gtgtcgaagc gccttcaagc tcctggaggt gaacgagagg  
240  
caccagattc tgcgggcccg ccttcgggtg ttagactgtg gggcagctcc tggggcctgg  
300  
agtcagggtg cgggtgcagaa ggtcaacgcc gcaggcacag atcccagctc tcctgttggc  
360  
ttcgtgcttg gggtagatct tcttcacata ttccccctgg aaggagcaac ttttctgtgc  
420  
cctgctgacg tgactgacct gagaacctca cagagaatcc tcgagggtgct tcctggcagg  
480  
agagcagatg tgattctgag cgacatggcg cccaatgcc aagggttccg ggacctcgat  
540  
catgacaggc tcatcagcct gtgcctgacc cttctcagcg tgaccccaga catcctgcaa  
600  
cctggggggga cattcctttg taaaacctgg gctggaagtc aaagccgtcg gttacagagg  
660  
agactgacag aggaattcca gaatgtaagg atcatcaaac ctgaagccag caggaaagag  
720  
tcatcagaag tgtacttctt ggccacacag taccacggaa ggaagggcac tgtgaagcag  
780  
tgaggatttc ttgtgccatt ttcataatgg tcattagctc cttttaagct agaaacgtag  
840  
cctgagctcc tgaagagttc ctgggagatt tgagctgatt ttggagatgg agcaggacaa  
900  
gtggggagtc tctctctctc tttctctctc tctcttttta accaaaaaga gatgacaaaa  
960  
ctaagttcag gggccatgga aaatgaaaaa gtccgctata ttgtgatttg ggaagagaaa  
1020  
gttatcaaga gaaagaggtg aggatggaag gatggagaaa aacagactgt ggaaggatc  
1080  
agaaggaatc cgccgaggca gggatgggtg tgcccatgtg tgccctgacg ggacttcac  
1140  
ttatagactg ttaaactgtc acacacaaac aggcctttcca cccctgctct gagagcacca  
1200  
cgcacagatt tccagttctt agtgtggctg tttaaagtag aaaatctggg ggctgggtga  
1260  
ggccactcat gcctgtaaac ccagggtctt agaaggctga ggctggggga ttgcttgaag  
1320  
tcaggagttc aagaccaacc tgggcaacat agcaacaccc cccatgtcta caaaaatgaa  
1380  
aaacaaaaa gcaaaccaaa agaaaaatct gaaatttcca tctggggatt aacttctgtc  
1440  
tttctggtga acaatatagc aattcacgca ttcttcaagc agcaaaagt cccggaacaa  
1500  
ttagggaaga cgtatggtct gaatttatcc aggcagtggg tctgctttgg tttttgctgg  
1560  
aaatttatat cagtgtctgg gctccaaga acataaatgt aattgccaaa gcaaaaaaaa  
1620  
aa  
1622

<210> 4862  
 <211> 260  
 <212> PRT  
 <213> Homo sapiens

<400> 4862  
 Leu Gln Thr Ser Gly Gly Ala Leu Gln Ala Arg Gly Thr Pro Met Ala  
 1 5 10 15  
 Gly Tyr Leu Lys Leu Val Cys Val Ser Phe Gln Arg Gln Gly Phe His  
 20 25 30  
 Thr Val Gly Ser Arg Cys Lys Asn Arg Thr Gly Ala Glu His Leu Trp  
 35 40 45  
 Leu Thr Arg His Leu Arg Asp Pro Phe Val Lys Ala Ala Lys Val Glu  
 50 55 60  
 Ser Tyr Arg Cys Arg Ser Ala Phe Lys Leu Leu Glu Val Asn Glu Arg  
 65 70 75 80  
 His Gln Ile Leu Arg Pro Gly Leu Arg Val Leu Asp Cys Gly Ala Ala  
 85 90 95  
 Pro Gly Ala Trp Ser Gln Val Ala Val Gln Lys Val Asn Ala Ala Gly  
 100 105 110  
 Thr Asp Pro Ser Ser Pro Val Gly Phe Val Leu Gly Val Asp Leu Leu  
 115 120 125  
 His Ile Phe Pro Leu Glu Gly Ala Thr Phe Leu Cys Pro Ala Asp Val  
 130 135 140  
 Thr Asp Pro Arg Thr Ser Gln Arg Ile Leu Glu Val Leu Pro Gly Arg  
 145 150 155 160  
 Arg Ala Asp Val Ile Leu Ser Asp Met Ala Pro Asn Ala Thr Gly Phe  
 165 170 175  
 Arg Asp Leu Asp His Asp Arg Leu Ile Ser Leu Cys Leu Thr Leu Leu  
 180 185 190  
 Ser Val Thr Pro Asp Ile Leu Gln Pro Gly Gly Thr Phe Leu Cys Lys  
 195 200 205  
 Thr Trp Ala Gly Ser Gln Ser Arg Arg Leu Gln Arg Arg Leu Thr Glu  
 210 215 220  
 Glu Phe Gln Asn Val Arg Ile Ile Lys Pro Glu Ala Ser Arg Lys Glu  
 225 230 235 240  
 Ser Ser Glu Val Tyr Phe Leu Ala Thr Gln Tyr His Gly Arg Lys Gly  
 245 250 255  
 Thr Val Lys Gln  
 260

<210> 4863  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

<400> 4863  
 ctgggggctc acttttcgggt gcacctgggtg aagatgggtca ttctgacaga gcctgaggggt  
 60  
 gccccaata tcacagccaa cctcacctcg tccttctgta gcgtctgtgg gtggagccag  
 120  
 accatcaacc ctgaggacga cacggatcct ggccatgctg acctgggtcct ctatatcact  
 180

aggtttgacc tggagttgcc tgatggtaac ncggcagtcg ggggcgtcac ccagctgggc  
 240  
 ggggcctgct ccccaacctg gagctgectc attaccgagg aacttggtt cgacctggga  
 300  
 gtcaccattg cccatgagat tgggcacagc ttcggcctgg agcacgacgg cgcgc  
 355

<210> 4864

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4864

Leu	Gly	Ala	His	Phe	Arg	Val	His	Leu	Val	Lys	Met	Val	Ile	Leu	Thr
1				5					10					15	
Glu	Pro	Glu	Gly	Ala	Pro	Asn	Ile	Thr	Ala	Asn	Leu	Thr	Ser	Ser	Leu
			20					25					30		
Leu	Ser	Val	Cys	Gly	Trp	Ser	Gln	Thr	Ile	Asn	Pro	Glu	Asp	Asp	Thr
	35					40						45			
Asp	Pro	Gly	His	Ala	Asp	Leu	Val	Leu	Tyr	Ile	Thr	Arg	Phe	Asp	Leu
	50					55					60				
Glu	Leu	Pro	Asp	Gly	Asn	Xaa	Ala	Val	Arg	Gly	Val	Thr	Gln	Leu	Gly
65					70					75				80	
Gly	Ala	Cys	Ser	Pro	Thr	Trp	Ser	Cys	Leu	Ile	Thr	Glu	Asp	Thr	Gly
			85					90					95		
Phe	Asp	Leu	Gly	Val	Thr	Ile	Ala	His	Glu	Ile	Gly	His	Ser	Phe	Gly
		100						105						110	
Leu	Glu	His	Asp	Gly	Ala										
		115													

<210> 4865

<211> 444

<212> DNA

<213> Homo sapiens

<400> 4865

accggtgaga agccctacaa atgtgaggtc tgcagcaagg ccttctccca gagctctgac  
 60  
 ctcacaaac accagcgac ccacactggc gagcggccct acaaatgtcc ccgttgccgc  
 120  
 aaggccttcg ccgacagctc ttacctgctt cgccaccagc gcactcactc tggccagaag  
 180  
 ccctacaagt gcccacattg tggcaaggcc ttcggcgaca gctcctacct cctgcgacac  
 240  
 cagcgacccc acagccacga gcggccctac agctgcaccg agtgccgcaa gtgctatagc  
 300  
 cagaactcgt ccctgcgag ccatcagagg gtgcacaccg gtcagaggcc cttcagctgt  
 360  
 ggcattctgcg gcaagagctt ctcccagcgg tcggccctta tccccatgc ccgcagccac  
 420  
 gcccgaggaga agcccttcac gcgt  
 444

<210> 4866



<211> 148  
 <212> PRT  
 <213> Homo sapiens

<400> 4866  
 Thr Gly Glu Lys Pro Tyr Lys Cys Glu Val Cys Ser Lys Ala Phe Ser  
 1 5 10 15  
 Gln Ser Ser Asp Leu Ile Lys His Gln Arg Thr His Thr Gly Glu Arg  
 20 25 30  
 Pro Tyr Lys Cys Pro Arg Cys Gly Lys Ala Phe Ala Asp Ser Ser Tyr  
 35 40 45  
 Leu Leu Arg His Gln Arg Thr His Ser Gly Gln Lys Pro Tyr Lys Cys  
 50 55 60  
 Pro His Cys Gly Lys Ala Phe Gly Asp Ser Ser Tyr Leu Leu Arg His  
 65 70 75 80  
 Gln Arg Thr His Ser His Glu Arg Pro Tyr Ser Cys Thr Glu Cys Gly  
 85 90 95  
 Lys Cys Tyr Ser Gln Asn Ser Ser Leu Arg Ser His Gln Arg Val His  
 100 105 110  
 Thr Gly Gln Arg Pro Phe Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser  
 115 120 125  
 Gln Arg Ser Ala Leu Ile Pro His Ala Arg Ser His Ala Arg Glu Lys  
 130 135 140  
 Pro Phe Thr Arg  
 145

<210> 4867  
 <211> 391  
 <212> DNA  
 <213> Homo sapiens

<400> 4867  
 ggatcccgaga gggagttcta tctggacttg ccccaagcag gttgctaggc agtagcctca  
 60  
 taticcttggt gggaggatga gaaggacaaa aagaggcaac cagcctaggg acatcggcct  
 120  
 ctttctccac atccccattc tggtaggaaa agtcacccat gccaggatat cccagccca  
 180  
 gagacagccc caggggggtgc tgcttgagaga cagccgggat agcttcagtc tcctgaccct  
 240  
 gacacgggct gcaccaccag acaatgggca ttttcaggcc agactctggc acaaagagaa  
 300  
 ggggcagggc caaggctatg gccacaagc tcctcagcag ctgagatggg tgcaggaggt  
 360  
 agcgctctac tcccatagct cccactgta t  
 391

<210> 4868  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

<400> 4868  
 Met Gly Val Glu Arg Tyr Leu Leu His Pro Ser Gln Leu Leu Arg Ser

```

1           5           10           15
Leu Trp Ala Ile Ala Leu Ala Leu Pro Leu Leu Phe Val Pro Glu Ser
20           25           30
Gly Leu Lys Met Pro Ile Val Trp Trp Cys Ser Pro Cys Gln Gly Gln
35           40           45
Glu Thr Glu Ala Ile Pro Ala Val Ser Arg Gln His Pro Leu Gly Leu
50           55           60
Ser Leu Gly Trp Gly Tyr Pro Gly Met Gly Asp Phe Ser Tyr Gln Asn
65           70           75           80
Gly Asp Val Glu Lys Glu Ala Asp Val Pro Arg Leu Val Ala Ser Phe
85           90           95
Cys Pro Ser His Pro Pro Thr Lys Asp Met Arg Leu Leu Pro Ser Asn
100          105          110
Leu Leu Gly Ala Ser Pro Asp Arg Thr Pro Ser Gly Ile
115          120          125

```

&lt;210&gt; 4869

&lt;211&gt; 418

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4869

```

ccccggaaga gggtcgcccc ccataaatgc ggaaacagtt aaatggcgat gggaatagga
60
tgggaactca atggtgttgc tacctttgga tggactcgga ggcagcccag cttcctggga
120
caggactgca cggactgcct ggggaggggt ctttgcccc ccggttcctg caggggggct
180
cggggaggcc ctgtgagcag ttggtcacag gtgggtccca ttcgatgcga tcctgttctt
240
ccccaacagc cctggagaag ggggacgttg cctgctgtgg ctgcggctgt tttcctggcc
300
tgtgagagggc ggggccagag tggccgttgg gaatctgggt gttgcaaggt gaccacaaac
360
agctctctgg gggaggagga ggaaaatgca attgattttc aggagccttc tgagggtcg
418

```

&lt;210&gt; 4870

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4870

```

Met Ala Met Gly Ile Gly Trp Glu Leu Asn Gly Val Ala Thr Phe Gly
1           5           10           15
Trp Thr Arg Arg Gln Pro Ser Phe Leu Gly Gln Asp Cys Thr Asp Cys
20           25           30
Leu Gly Arg Gly Leu Trp Pro Pro Gly Ser Cys Arg Gly Ala Arg Gly
35           40           45
Gly Pro Val Ser Ser Trp Ser Gln Val Gly Pro Ile Arg Cys Asp Pro
50           55           60
Val Pro Pro Gln Gln Pro Trp Arg Arg Gly Thr Leu Pro Ala Val Ala
65           70           75           80
Ala Ala Val Phe Leu Ala Cys Glu Arg Arg Gly Gln Ser Gly Arg Trp

```

				85					90					95
Glu	Ser	Gly	Cys	Cys	Lys	Val	Thr	Thr	Asn	Ser	Ser	Leu	Gly	Glu
				100					105				110	
Glu	Glu	Asn	Ala	Ile	Asp	Phe	Gln	Glu	Pro	Ser	Glu	Val		
		115					120					125		

&lt;210&gt; 4871

&lt;211&gt; 1354

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4871

```

nnntttttttt tttttttttt tttttctaga atccgcttta ttatggcacc tgggtgggtct
60
ggtgggatct gagggaggaa gaggctgcag tcttgctggg cagcccctcg gtcagtccag
120
cagcccctca ggccatgctg ctgctcagct gcatggcaaa gtccctgcaca tgctccttca
180
gagtctggcg ggcatctgcc tgtgcccgt tctcccgctg ccgctcctgc tgcagcttgg
240
tcagtctcaa ccgcagccgc tgctcccgc gcttgaggc ctgcagctgg cgctgggcct
300
tgtcaagggc atcaagggct gcctggctcg ccgcttccag agtaaggcgc tgcccacctg
360
gtagctgtgt tcattctgga tgtaggctcc ggcgggtggg ggcaggcgag catatacgct
420
gagggggaga ctggccgtgg ttcgagaggg gagggctgcc gctctggtga aggctgggctg
480
ctgcagcctg cttcatctgc ctgggcaccc aaggggcccc gtaggtctga aaaggggctg
540
ctaaggccag gctccagcct cccagctggg gaggccggca aagtggcagg tgctgaggcc
600
tcttccacag gaaagcaggt gacatcagca ggtggaggtg gagaaaatgg agttgtgggc
660
cctcggccct cggagcagcg cttcctgcat cgtctaagcc ggctgacttc aggggggcca
720
ggtgggtaac tgtgtccttt ggtcttggtt gtccggcgca acttgagaaa agactcaaag
780
atggtgggga ctgcccctc ctttagcctg tgatatccac tgattccac cagctcaaag
840
cagtcctcct caaagtgttt ggagcagaag tagatgtact cggatgccgg gtcccacagg
900
ccctggccgc tggggtccag ccgctggcag ttggccagcc acaagcctcg cctcgggttg
960
tccttcttgg gaagtctgtg gagccacaaa cccgtgagca ccaggctgtc cacagccctg
1020
ggctcatgct gcccaagcac cccagagggg aaacgcagac ccaacacgcg ccgccacgag
1080
acctccctgc gaccccgccg ggtaagcacc accgcccggg cacagacgag gcaacggagg
1140
cctcgagaag aaaagcagtt tcctcagcgt catctggcag gtaacagagt ggggcgggtc
1200
caagccggct agacttcccg tcctcccctt cccgactgca ttcagtcctg ccgggaccgt
1260

```

tccgcttcac ctcccacca caggttcaag cctcctcagt atctgagaaa ggcgcgaagc  
 1320  
 ctctacgcag ttgcgacccg aggcgagcaa caac  
 1354

<210> 4872  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 4872  
 Gly Arg Lys Arg Leu Gln Ser Cys Trp Ala Ala Pro Arg Ser Val Gln  
 1 5 10 15  
 Gln Pro Leu Arg Pro Cys Cys Cys Ser Ala Ala Trp Gln Ser Pro Ala  
 20 25 30  
 His Ala Pro Ser Glu Ser Gly Gly His Leu Pro Val Pro Ala Ser Pro  
 35 40 45  
 Val Pro Ala Pro Ala Ala Ala Trp Ser Val Ser Thr Ala Ala Ala Ala  
 50 55 60  
 Pro Ala Ala Cys Arg Pro Ala Ala Gly Ala Gly Pro Cys Gln Gly His  
 65 70 75 80  
 Gln Gly Leu Pro Gly Ser Pro Leu Pro Glu  
 85 90

<210> 4873  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 4873  
 nccccctag gatgcagaaa gtagatgaca ttccatccac actgtgtgag caaattggag  
 60  
 agattgcctt gatagaggac tgatgttttt cactgatgag atggtgacca aaagccagcc  
 120  
 ccaactgtgag ttgaactctt tcgtgttgac cggccactct ccgtgctctg gatgatgtcg  
 180  
 gaacacgacc tggccgatgt ggttcaaatt gcagtggaag acctgagccc tgaccacca  
 240  
 ggtacagagc tgtgggacag tgttgttttg gagaatcatg tagtgacaga tgaagacgaa  
 300  
 cctgctttga aacgccagcg actagaaatc aattgccagg atccatctat aaagtcattc  
 360  
 ctgtattcca tcaaccagac aatctgcttg cggttgata gcattgaagc caaattgcaa  
 420  
 gccctggagg ctacttgtaa atccttagaa gaaaagctgg atctggtcac gaacaagcag  
 480  
 cacagcccca tccaggttcc catggtggcc ggctccctc tcaggacaac ccagatgtgc  
 540  
 aacaaagtgc gatggtgaaga acagaccagg gtgccggggc cttcaggtca cttggggaga  
 600  
 agcgcgtcac ctctcgccc atgccgcag cttagtggct cagtttgctg gagatgcgca  
 660  
 gtgtctgcct cagcagtctc agcagtttct aactaaagct gactttagtt agaccgaaac  
 720

cgaacacatg gcatectgcc aggatgacct gaagtcaccc tcacctttcc tttccacata  
 780  
 aagccggccc atacaccttt tctttggaac taaccaccca gatcttagaa gatgtacacg  
 840  
 tgcttctttc ctttttccta ctctacctgg ctagtcttta gatatgtttt tcttcgtatg  
 900  
 tgggtgtttat acatttcaca tgaatatatc aaacttttca ttcaaaaa  
 948

<210> 4874

<211> 128

<212> PRT

<213> Homo sapiens

<400> 4874

Met	Met	Ser	Glu	His	Asp	Leu	Ala	Asp	Val	Val	Gln	Ile	Ala	Val	Glu
1				5					10					15	
Asp	Leu	Ser	Pro	Asp	His	Pro	Gly	Thr	Glu	Leu	Trp	Asp	Ser	Val	Val
			20					25					30		
Leu	Glu	Asn	His	Val	Val	Thr	Asp	Glu	Asp	Glu	Pro	Ala	Leu	Lys	Arg
		35				40						45			
Gln	Arg	Leu	Glu	Ile	Asn	Cys	Gln	Asp	Pro	Ser	Ile	Lys	Ser	Phe	Leu
	50				55					60					
Tyr	Ser	Ile	Asn	Gln	Thr	Ile	Cys	Leu	Arg	Leu	Asp	Ser	Ile	Glu	Ala
65			70						75					80	
Lys	Leu	Gln	Ala	Leu	Glu	Ala	Thr	Cys	Lys	Ser	Leu	Glu	Glu	Lys	Leu
		85						90					95		
Asp	Leu	Val	Thr	Asn	Lys	Gln	His	Ser	Pro	Ile	Gln	Val	Pro	Met	Val
		100						105					110		
Ala	Gly	Ser	Pro	Leu	Arg	Thr	Thr	Gln	Met	Cys	Asn	Lys	Val	Arg	Trp
		115					120						125		

<210> 4875

<211> 1255

<212> DNA

<213> Homo sapiens

<400> 4875

ntgtacagtc gattccattt ggcccgggga tggtcacacg cgcggggggcc ggaactgccg  
 60  
 tcgccggcgc ggtcgttgtc gcattgctct cgcccgact cgcgctgtac gggccgccac  
 120  
 tggacgcagt tttagaaaga gcgttttcgc tacgtaaagc acattcgata aaggatatgg  
 180  
 aaaatacttt gcagctgggtg agaaatatca tacctcctct gtcttcaca aagcacaag  
 240  
 ggcaagatgg aagaataggc gtagttggag gctgtcagga gtacactgga gcccatatt  
 300  
 ttgcagcaat ctcagctctc aaagtgggcg cagacttgct ccacgtgttc tgtgccagtg  
 360  
 cggccgcacc tgtgattaag gcctacagcc cggagctgat cgtccacca gttcttgaca  
 420  
 gccccaatgc tgttcatgag gtggagaagt ggctgccccg gctgcatgct cttgtcgtag  
 480

gacctggctt gggtagagat gatcggtccac ccagttcttg acagcccca tgcgtttcat  
 540  
 gaggtggaga agtggctgcc ccggtgcat gctctgtcg taggaactgg cttgggtaga  
 600  
 gatgatgcgc ttctcagaaa tgtccagggc attttggaag tgtcaaaggc caggacatc  
 660  
 cctgttgtca tcgacgcgga tggcctgtgg ctggtcgctc agcagccggc cctcatccat  
 720  
 ggctaccgga aggctgtgct cactcccaac cacgtggagt tcagcagact gtatgacgct  
 780  
 gtgctcagag gccctatgga cagcgatgac agccatggat ctgtgctaag actcagccaa  
 840  
 gccctgggca acgtgacggt ggtccagaaa ggagagcgcg acatcctctc caacggccag  
 900  
 caggtgcttg tgtgcagcca ggaaggcagc agcgcgaggt gtggagggca aggggacctc  
 960  
 ctgtcgggct ccctgggctg cctgggtacac tgggcgctcc ttgctggacc acagaaaaca  
 1020  
 aatgggtcca gccctctcct ggtggccgcg tttggcgctt gctctctcac caggcagtgc  
 1080  
 aaccaccaag ccttcagaa gcacggctgc tccaccacca cctccgacat gatcgccgag  
 1140  
 gtggggggcg ccttcagcaa gctctttgaa acctgagccc gcgcagacca gaagtaaaca  
 1200  
 ggcaccttg acgggggaga gcgtgtgtgt gatgggaaaa tccggacca cgcgt  
 1255

&lt;210&gt; 4876

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4876

Leu	Ala	Trp	Val	Glu	Met	Ile	Val	His	Pro	Val	Leu	Asp	Ser	Pro	Asn
1				5					10					15	
Ala	Val	His	Glu	Val	Glu	Lys	Trp	Leu	Pro	Arg	Leu	His	Ala	Leu	Val
			20					25					30		
Val	Gly	Thr	Gly	Leu	Gly	Arg	Asp	Asp	Ala	Leu	Leu	Arg	Asn	Val	Gln
		35					40					45			
Gly	Ile	Leu	Glu	Val	Ser	Lys	Ala	Arg	Asp	Ile	Pro	Val	Val	Ile	Asp
	50					55				60					
Ala	Asp	Gly	Leu	Trp	Leu	Val	Ala	Gln	Gln	Pro	Ala	Leu	Ile	His	Gly
65					70				75					80	
Tyr	Arg	Lys	Ala	Val	Leu	Thr	Pro	Asn	His	Val	Glu	Phe	Ser	Arg	Leu
			85					90						95	
Tyr	Asp	Ala	Val	Leu	Arg	Gly	Pro	Met	Asp	Ser	Asp	Asp	Ser	His	Gly
		100					105						110		
Ser	Val	Leu	Arg	Leu	Ser	Gln	Ala	Leu	Gly	Asn	Val	Thr	Val	Val	Gln
		115				120						125			
Lys	Gly	Glu	Arg	Asp	Ile	Leu	Ser	Asn	Gly	Gln	Gln	Val	Leu	Val	Cys
	130					135				140					
Ser	Gln	Glu	Gly	Ser	Ser	Arg	Arg	Cys	Gly	Gly	Gln	Gly	Asp	Leu	Leu
145					150				155					160	
Ser	Gly	Ser	Leu	Gly	Val	Leu	Val	His	Trp	Ala	Leu	Leu	Ala	Gly	Pro

[illegible]

<210> 4877

<211> 1182.

<212> DNA

<213> Homo sapiens

<400> 4877

ntttttttt	ctttgttttc	ttaagactct	ctcccctgca	gcgccatcag	ctcaggggacc
60	acttgatctt	ggctcactgt	ccatgccgga	gcctgggaag	gagcctggcc
120	gttcaatgaa	tgcgtgcgga	atgaatgaac	gactctagt	aaagagactc
180	ggccgggatt	tgcggacacg	agccccgcgc	cgcaagcat	tctggggatt
240	cgtgacgagg	tgactcgcag	agcactgacg	cactctgcgc	ccggaggaca
300	gtcgccggca	tggtttctcc	gtcctgctgc	agccggcggg	aggcagccag
360	cgctagcttc	ggcggcgacc	cagacgggga	aagcggaagg	aatgtcgcgt
420	agctggtgtg	gaagaatggc	ggtgagccat	tcagtgaagg	agcggaccat
480	agcctgatca	tcctactgca	gggcctccag	ggccgggtaa	ccactgtgga
540	gagagcgtgg	cccacggacg	catagacaat	gtcgatgctt	tcatgaacat
600	aaagtcacct	acacggaccg	ttgggggcat	cagggtcaagc	tggatgacct
660	ggccgcaatg	tccgctacgt	ccacatccca	gatgacgtga	acatcacctc
720	cagcagctgc	agattatcca	tcgggtgcga	aactttggtg	gcaagggcca
780	gaatttcccc	caaaaaaact	gtaagtgagg	ccctcagcaa	gccttgcccc
840	tcctccagt	atctccggag	ctagtccct	gccctcacac	cctgtctggt
900	aaagcagggc	caggccagaa	gctggtgtcc	aacagacacc	acctgtcaaa
960	acagggttcc	acctcccaga	ctcactctgg	gaccagaat	cctatatgtg
1020	aggtgacaat	cccccttttt	gatgatctga	atctctgact	tattgattat
1080	aagtgttttt	caactctccc	agtgaggata	attaacatg	ctcagcctga
1140					gccacctcta

agtgtctcca ttctcatgc agttgtgttc attttctcat ga  
1182

<210> 4878

<211> 122

<212> PRT

<213> Homo sapiens

<400> 4878

Met	Ala	Val	Ser	His	Ser	Val	Lys	Glu	Arg	Thr	Ile	Ser	Glu	Asn	Ser
1				5					10					15	
Leu	Ile	Ile	Leu	Leu	Gln	Gly	Leu	Gln	Gly	Arg	Val	Thr	Thr	Val	Asp
			20					25					30		
Leu	Arg	Asp	Glu	Ser	Val	Ala	His	Gly	Arg	Ile	Asp	Asn	Val	Asp	Ala
		35					40					45			
Phe	Met	Asn	Ile	Arg	Leu	Ala	Lys	Val	Thr	Tyr	Thr	Asp	Arg	Trp	Gly
	50					55					60				
His	Gln	Val	Lys	Leu	Asp	Asp	Leu	Phe	Val	Thr	Gly	Arg	Asn	Val	Arg
65				70						75				80	
Tyr	Val	His	Ile	Pro	Asp	Asp	Val	Asn	Ile	Thr	Ser	Thr	Ile	Glu	Gln
			85					90						95	
Gln	Leu	Gln	Ile	Ile	His	Arg	Val	Arg	Asn	Phe	Gly	Gly	Lys	Gly	Gln
			100					105						110	
Gly	Arg	Trp	Glu	Phe	Pro	Pro	Lys	Lys	Leu						
			115					120							

<210> 4879

<211> 1941

<212> DNA

<213> Homo sapiens

<400> 4879

gttctggttc gccatcagca tcgcatcaa caatgcctac atcctgtaca aaatgtcaga  
60  
cgcctaccac gtgaagaggt acagccgggc gcagtttggg gagagactcg tcagagagct  
120  
gctgggcttg gaggatgcct ctccgaccca ctgatgctgg gggcgagga ctcgggtcaag  
180  
ggaggggcaa gaggaggagg agagcctgcc gttccaactt gcccatacaga gacccggaca  
240  
cggcctggtg tgtggcttgc tgctgggag ggatgcacag ggcctcctga gggacaggat  
300  
ggacctggtc agaggacggt tgctgtcctc atttgctttc caagaagagc atgtcctccc  
360  
tcgagaaaca gtgccggcgg tgtgatgagc acttacaccc acgttctcaa gggcagattc  
420  
tctcatgaca tccgtggagc ttgcgaggca gcgtggactg gtgactgtga aggaaggccc  
480  
ccgtggtaga atgagctgga gcacgtctta agagagatgc ctgcttccta aagatctaca  
540  
gcaatctggg acgtgggttca agttcaagac ttgaaggaag caaagacgcc ctgcatggtt  
600  
acaatggctc aggtgtcagg ggaggccgga gggtttccag catttgctc atgccagcac  
660



ctttgaaccg gtctcttaga agaagacaca catcctgggt gtacagtggg gaaatgggga  
 720  
 gtgggtgccc attctgaaaa acgaggcatt cctgctcatt ccctctgctt agctgggtggg  
 780  
 caggggagag agggaaatgc caaaaacttg gagtgaagga tgatgctatt ttttattttt  
 840  
 aaatatatct tcagggttatt ttcttactgt tgcttcagat ctaatgtaaa aggcagatgt  
 900  
 cccctcctct ccacccccga cgctgacccc ggcctcagtc acggctcttt gcatgatcac  
 960  
 agttctgtgt tctggcctgt ggcagggccg ggaagggccg ctggcttccg aacagacgtg  
 1020  
 gttgctctcc acgaggcgca tggggagccc gcgggcccta agctttgtcg cagatgtcat  
 1080  
 cattggcaga attacttgct ttgaaaaata agtagcattg ctgaaacaca caaccgaatt  
 1140  
 ctctacgatg gccatttgct cattgtcttt cctctgtgtg tagtgagtga ccctggcagt  
 1200  
 gtttgccctgc tcagagtggc ccctcagaac aacagggctg gccttgga aaacccaaaa  
 1260  
 caggactgtg gtgacaactc tggtcagggtg tgatttgaca tgagggcccg aggcgggtgc  
 1320  
 tgacggcagg actggagagg ctgctgcccc ggcactggca gcgaggctcg tgtgtcccc  
 1380  
 aggcagatct gggcactttc ccaaccagg tttatgcgtc tccagggaag cctcgggtgc  
 1440  
 agagtgggtg gcagatctga ccacccccc agaccagaaa caaggaattt ctgggattac  
 1500  
 ccagtcccc ttcaaccag tgatgtaac cacctcattt ttacaaaata cagaatctat  
 1560  
 tctactcagg ctatgggcct cgtcctcact cagttattgc gagtgttgct gtccgcatgc  
 1620  
 tccgggcccc acgtggctcc tgtgctctag atcatgggtg ccccccgcc ctgtgggtgg  
 1680  
 aatcgatgcc acggattgca ggccaaattt cagatcgtgt ttccaaacac ccttgctgtg  
 1740  
 ccctttaatg ggattgaaag cacttttacc acatggagaa atatattttt aatttgtgat  
 1800  
 gcttttctac aagggtccact atttctgagt ttaatgtgtt tccaacactt aaggagactc  
 1860  
 taatgaaagc tgatgaattt tcttttctgt ccaaacaagt aaaataaaaa taaaagtcta  
 1920  
 tttagatgtt gaaaaaaaaa a  
 1941

<210> 4880

<211> 202

<212> PRT

<213> Homo sapiens

<400> 4880

Met	Val	Arg	Ser	Ala	His	His	Ser	Gly	Thr	Glu	Ala	Ser	Leu	Glu	Thr
1					5			10					15		
His	Lys	Pro	Gly	Leu	Gly	Lys	Cys	Pro	Asp	Leu	Pro	Gly	Gly	His	Thr

20 25 30  
 Ser Leu Ala Ala Ser Ala Gly His Ala Ala Ser Pro Val Leu Pro Ser  
 35 40 45  
 Ala Thr Ala Ser Gly Pro His Val Lys Ser His Leu Thr Arg Val Val  
 50 55 60  
 Thr Thr Val Leu Phe Trp Gly Phe Ser Lys Ala Ser Pro Val Val Leu  
 65 70 75 80  
 Arg Gly His Ser Glu Gln Ala Asn Thr Ala Arg Val Thr His Tyr Thr  
 85 90 95  
 Gln Arg Lys Asp Asn Glu Gln Met Ala Ile Val Glu Asn Ser Val Val  
 100 105 110  
 Cys Phe Ser Asn Ala Thr Tyr Phe Ser Arg Gln Val Ile Leu Pro Met  
 115 120 125  
 Met Thr Ser Ala Thr Lys Leu Arg Ala Arg Gly Leu Pro Met Arg Leu  
 130 135 140  
 Val Glu Ser Asn His Val Cys Ser Glu Ala Ser Gly Pro Ser Arg Pro  
 145 150 155 160  
 Cys His Arg Pro Glu His Arg Thr Val Ile Met Gln Arg Ala Val Thr  
 165 170 175  
 Glu Ala Gly Val Ser Val Gly Gly Gly Glu Glu Gly Thr Ser Ala Phe  
 180 185 190  
 Tyr Ile Arg Ser Glu Ala Thr Val Arg Lys  
 195 200

&lt;210&gt; 4881

&lt;211&gt; 1333

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4881

nntttttttt ttacatgtga gtcattcttt attagggagg aagcaagcag ggaagccaca  
 60  
 ggggtagaga acaggggtcac ctctccactc ccgcccctcc catttctccc ctcccaacct  
 120  
 ctagggttttg gatacatgac gcagcaactg atgaacctgg caggaggcgc agtggtgctg  
 180  
 gccttgaggg gtggccatga cctcacagcc atctgtgacg cctctgaggc ctgtgtggct  
 240  
 gctcttctgg gtaacagggt gagccgtctc cctcccccat ccatgcttct gtcaggcagg  
 300  
 taagcccggc tctcaggact acccaaggaa caggcagatg ggatgggaca ggggtgggagt  
 360  
 ggccaagcct gaaacaaggt aggcgaagcg aaagcctctg ttccaagtta ggtccaggca  
 420  
 gcatctcctg gcctaggtag agtgtgcttg tggctagaag gctggggccc ctgggggtggg  
 480  
 agtgagctgg gcctgtgggt ccctgaaaga ctgggtggctg atgtactggt ttctataggt  
 540  
 ggatccgggt tgaggaagaa gctggaaaca gaaacccaac ctcaatgcca tccgctctct  
 600  
 ggaggccgtg atccgggtgc acagtaagtg tggagatggg acactcgctg agctcagact  
 660  
 gaaggatctt ggtggtaccc tgccccaccg tggccagatc ctagggcttc cgggtgccagc  
 720

caggtgacct gctgttggtc tggagtaaga ttcctgtgag tgacccaggc agcaatggta  
 780  
 aatactgggg ctgcatgcag cgcctggcct cctgtccaga ctcctgggtg cctagagtgc  
 840  
 caggggctga caaagaagaa gtggaggcag tgaccgcact ggcgccctc tctgtgggca  
 900  
 tcctggctga agataggtaa tgccagacnc tgggccctgg gcccgcagcc tctccaccgc  
 960  
 ttcattcctc cctgcttgaa gaccccggtt ccgctatgca gccaccccaa ccctcccagg  
 1020  
 cttcctgacc aggggtgaga ggaagcttag ctaaggccct tgctgcagcc ctggtgctcc  
 1080  
 agcatcccac ccttgccct cccacaggc cctcggagca gctggtggag gaggaagaac  
 1140  
 ctatgaatct ctaaggctct ggaaccatct gcccgccac catgcccttg ggacctggtt  
 1200  
 ctcttctaac ccctggcaat agccccatt cctgggtctt tagagatcct gtgggcaagt  
 1260  
 agttggaacc agagaacagc ctgcctgctt tgacagttat cccaggggagc gtgagaaaat  
 1320  
 ccctgggtct aga  
 1333

<210> 4882

<211> 100

<212> PRT

<213> Homo sapiens

<400> 4882

Xaa	Phe	Phe	Phe	Thr	Cys	Glu	Ser	Phe	Phe	Ile	Arg	Glu	Glu	Ala	Ser
1				5					10					15	
Arg	Glu	Ala	Thr	Gly	Val	Glu	Asn	Arg	Val	Thr	Ser	Pro	Leu	Pro	Pro
			20					25					30		
Leu	Pro	Phe	Leu	Pro	Ser	Gln	Pro	Leu	Gly	Phe	Gly	Tyr	Met	Thr	Gln
		35					40				45				
Gln	Leu	Met	Asn	Leu	Ala	Gly	Gly	Ala	Val	Val	Leu	Ala	Leu	Glu	Gly
		50				55				60					
Gly	His	Asp	Leu	Thr	Ala	Ile	Cys	Asp	Ala	Ser	Glu	Ala	Cys	Val	Ala
65					70				75					80	
Ala	Leu	Leu	Gly	Asn	Arg	Val	Ser	Arg	Leu	Pro	Pro	Pro	Ser	Met	Leu
				85				90						95	
Leu	Ser	Gly	Arg												
															100

<210> 4883

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 4883

nnagatctaa cagagaacct ggactgtctc ctatcatgat tcccgggaaa tctcgctctg  
 60  
 tttctggccg ggctgcgaac aacgtgaact gcgggcttca tctggttatt caaacatcat  
 120

cgcttcctga aaaaaacaaa acaaaagctg accgtatgtc ctatcatcaa tggggaagac  
 180  
 caccttcggt tgttgaactt tcaacacaat tttataactc ggatacaaaa tattttcta  
 240  
 ctacagaagt taatatcggt ggatttatat gataaccaga ttgaagaaat tagtgggctt  
 300  
 tcgactctga gatgtcttcg tgccttctg ttggggaaaa acagaatcaa gaaaatctca  
 360  
 aatctggaga atctaaaaag cttagatgtc ttggatcttc atggaaatca gattaccaaa  
 420  
 attgaaaata ttaatcattt gtgtgagttg agagttttta atcttgccag gaacttttta  
 480  
 agtcatgttg ataactctaa tgggctggat tcactaactg aacttaactt gcgacacaa  
 540  
 caaatcactt tcgtgagaga tgtggataat ttgccctgcc tccaacatct ctttctcagc  
 600  
 ttttaacaata tatctagttt tgacagtgtt tcctgccttg ctgactcttc ttccctctcg  
 660  
 gacatcacct ttgatggcaa tcccatagct caagagtcac ggtacaaaca cactgtcctt  
 720  
 cagaatatga tgcagctgcg ccagctagat atgaagagaa tcacggaaga agaaaggcgt  
 780  
 atggcatctg ttttagccaa aaaagaggaa gagaagaagc gggaaagtca taaacaatct  
 840  
 ttgcttaagg agaagaaaag gttaacaatt aacaacgtag ctgcacagtg ggacttgcaa  
 900  
 caacgagtag ccaatattgc taaaaatgaa gatagaaaag attctgactc tcctcaggac  
 960  
 ccctgtcaga ttgatggaag caccctctct gcattccag aggaaacagg gcctctagac  
 1020  
 tcaggactca acaatgcttt acaaggttta tctgtcatag acacatacct tgttgaagt  
 1080  
 gacggggata cactttccct atatggctca ggagcactgg aatctctgga taggaattgg  
 1140  
 agtgttcaaa cagcaggaat gatcacaaca gtctccttca ctttcataga atttgatgaa  
 1200  
 atcgtccaag tgcttcctaa actgaagatt aagtttccta attctctgca ccttaaattc  
 1260  
 aaggaaacaa atcttgtaat gcagcaattt aacgcactag cccaactccg tcggtattga  
 1320  
 ccagttggac aattgatcct caaggaaatc cagttggtcc attttaacac t  
 1371

<210> 4884<211> 410

<212> PRT

<213> Homo sapiens

<400> 4884

Thr	Ala	Gly	Phe	Ile	Trp	Leu	Phe	Lys	His	His	Arg	Phe	Leu	Lys	Lys
1				5				10						15	
Thr	Lys	Gln	Lys	Leu	Thr	Val	Cys	Pro	Ile	Ile	Asn	Gly	Glu	Asp	His
		20						25					30		
Leu	Arg	Leu	Leu	Asn	Phe	Gln	His	Asn	Phe	Ile	Thr	Arg	Ile	Gln	Asn
	35						40						45		

```

Ile Ser Asn Leu Gln Lys Leu Ile Ser Leu Asp Leu Tyr Asp Asn Gln
 50                      55                      60
Ile Glu Glu Ile Ser Gly Leu Ser Thr Leu Arg Cys Leu Arg Val Leu
65                      70                      75                      80
Leu Leu Gly Lys Asn Arg Ile Lys Lys Ile Ser Asn Leu Glu Asn Leu
                      85                      90                      95
Lys Ser Leu Asp Val Leu Asp Leu His Gly Asn Gln Ile Thr Lys Ile
                      100                      105                      110
Glu Asn Ile Asn His Leu Cys Glu Leu Arg Val Leu Asn Leu Ala Arg
                      115                      120                      125
Asn Phe Leu Ser His Val Asp Asn Leu Asn Gly Leu Asp Ser Leu Thr
                      130                      135                      140
Glu Leu Asn Leu Arg His Asn Gln Ile Thr Phe Val Arg Asp Val Asp
145                      150                      155                      160
Asn Leu Pro Cys Leu Gln His Leu Phe Leu Ser Phe Asn Asn Ile Ser
                      165                      170                      175
Ser Phe Asp Ser Val Ser Cys Leu Ala Asp Ser Ser Ser Leu Ser Asp
                      180                      185                      190
Ile Thr Phe Asp Gly Asn Pro Ile Ala Gln Glu Ser Trp Tyr Lys His
                      195                      200                      205
Thr Val Leu Gln Asn Met Met Gln Leu Arg Gln Leu Asp Met Lys Arg
210                      215                      220
Ile Thr Glu Glu Glu Arg Arg Met Ala Ser Val Leu Ala Lys Lys Glu
225                      230                      235                      240
Glu Glu Lys Lys Arg Glu Ser His Lys Gln Ser Leu Leu Lys Glu Lys
                      245                      250                      255
Lys Arg Leu Thr Ile Asn Asn Val Ala Arg Gln Trp Asp Leu Gln Gln
                      260                      265                      270
Arg Val Ala Asn Ile Ala Thr Asn Glu Asp Arg Lys Asp Ser Asp Ser
275                      280                      285
Pro Gln Asp Pro Cys Gln Ile Asp Gly Ser Thr Leu Ser Ala Phe Pro
290                      295                      300
Glu Glu Thr Gly Pro Leu Asp Ser Gly Leu Asn Asn Ala Leu Gln Gly
305                      310                      315                      320
Leu Ser Val Ile Asp Thr Tyr Leu Val Glu Val Asp Gly Asp Thr Leu
                      325                      330                      335
Ser Leu Tyr Gly Ser Gly Ala Leu Glu Ser Leu Asp Arg Asn Trp Ser
                      340                      345                      350
Val Gln Thr Ala Gly Met Ile Thr Thr Val Ser Phe Thr Phe Ile Glu
355                      360                      365
Phe Asp Glu Ile Val Gln Val Leu Pro Lys Leu Lys Ile Lys Phe Pro
370                      375                      380
Asn Ser Leu His Leu Lys Phe Lys Glu Thr Asn Leu Val Met Gln Gln
385                      390                      395                      400
Phe Asn Ala Leu Ala Gln Leu Arg Arg Tyr
                      405                      410

```

&lt;210&gt; 4885

&lt;211&gt; 489

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4885

cttagaagg aaaatatggc tgctctttgc cggacagcag agtcccagaa ccccatgcag  
 60  
 gtgtttcagg gctttatgtc attcaaggat gtggctgtga acttcactag gnaagaatgg  
 120  
 agagaactgg accttgcctca gagagtcttg tacagggatg taatgctgga gaactatagg  
 180  
 aacctgggtct ccttggtagg atttccattt tccaaacctg gtatcatctc ctagttggaa  
 240  
 gaagtggtaa gccacgaac acaaatgcag gagggagagg tgccaagaag cagcgggtaca  
 300  
 cgagaaagac agggctggag accagtttgc tgatagtgac cccaaccag aaaagttcat  
 360  
 tgggctgcac cctccagtag aactggacct gaggcagcta ggaataggat gcatgtttct  
 420  
 gaccctggcc aggatcagaa agaaggaaac ctctctgag ggtcttcagc agtggaagag  
 480  
 ggcagtcag  
 489

&lt;210&gt; 4886

&lt;211&gt; 77

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4886

Leu	Lys	Lys	Glu	Asn	Met	Ala	Ala	Leu	Cys	Arg	Thr	Ala	Glu	Ser	Gln
1				5					10				15		
Asn	Pro	Met	Gln	Val	Phe	Gln	Gly	Phe	Met	Ser	Phe	Lys	Asp	Val	Ala
			20					25				30			
Val	Asn	Phe	Thr	Arg	Xaa	Glu	Trp	Arg	Glu	Leu	Asp	Leu	Ala	Gln	Arg
			35					40				45			
Val	Leu	Tyr	Arg	Asp	Val	Met	Leu	Glu	Asn	Tyr	Arg	Asn	Leu	Val	Ser
	50					55				60					
Leu	Val	Gly	Phe	Pro	Phe	Ser	Lys	Pro	Gly	Ile	Ile	Ser			
65					70					75					

&lt;210&gt; 4887

&lt;211&gt; 2271

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4887

nntttttttt tttttttttt aaagggacac ctgcaccccc atgtttattg cagcaatatt  
 60  
 cacaatagcc ttgtagtgtt agcgcttaga ggcatttaaa cagcctctct cctccagact  
 120  
 acttcactgt agtttattat ccctgaccct ccacaatgtg attaccaacc gctaggatga  
 180  
 gttgcactctt attataaagt agcaaattac aagattgtaa cattagactt tttaagaaaa  
 240  
 tccagtcagc ttttatacta atccatctta atttctaggt tactcagaat tccaggtatt  
 300  
 ctgatttgga ctcacatctc gtattgtatt gcctgtattt aactaggaag ttactgcca  
 360

cagcatctat ctctattaaa tgtagaggaa ttgacaaaag aggggaaaga aagttgttag  
420  
gtaatagaac tgcttcagaa atagggtat tcatgtttga agtgtttctc ctctgttttt  
480  
cagggcatct cattgggaga tttcctctt ccaggcagta tcagtgatgg catgaattct  
540  
tcagcacatt atcatgtaaa cttcagccag gctataagtc aggatgtgaa tcttcagag  
600  
gccatcttgc tttgtcccaa caatacatct agaagagatc caacagcaag gacttcacag  
660  
tcacaagaac cttttctgca gttaaattct cataccacca atcctgagca aacccttcct  
720  
ggaactaatt tgacaggatt tctttcaccg gttgacaatc atatgaggaa tctaacaagc  
780  
caagacctac tgtatgacct tgacataaat atatttgatg agataaactt aatgtcattg  
840  
gccacagaag acaactttga tccaatcgat gtttctcagc tttttgatga accagattct  
900  
gattctggcc tttctttaga ttcaagtcac aataatacct ctgtcatcaa gtctaattcc  
960  
tctcactctg tgtgtgatga aggtgctata gggtattgca ctgaccatga atctagtctc  
1020  
catcatgact tagaagggtgc tgtaggtggc tactaccag aaccagtaa gctttgtcac  
1080  
ttggatcaaa gtgattctga tttccatgga gatcttacct ttcaacacgt atttcataac  
1140  
cacacttacc acttacagcc aactgcacca gaatctactt ctgacncttt tccgnntgct  
1200  
gggaagtcac agaagataag gagtagatac cttgaagacc cagatagaac ctttaagccgt  
1260  
gatgaccagc gtgctaaagc tttgcatatc cttttttctg tagatgaaat tgtcggcatg  
1320  
cctgttgatt ctttcaatag catgttaagt agatattatc tgacagacct acaagtctca  
1380  
cttatccgtg acatcagacg aagagggaaa aataaagttg ctgcgcagaa ctgtcgtaaa  
1440  
cgcaaattgg acataatttt gaatttagaa gatgatgtat gtaacttgca agcaaagaag  
1500  
gaaactctta agagagagca agcacaatgt aacaaagcta ttaacataat gaaacagaaa  
1560  
ctgcatgacc tttatcatga tttttttagt agattaagag atgaccaagg taggccagtc  
1620  
aatcccaacc actatgctct ccagtgtacc catgatggaa gtatcttgat agtaccctaa  
1680  
gaactggtgg cctcaggcca caaaaaggaa acccaaaagg gaaagagaaa gtgagaagaa  
1740  
actgaagatg gactctatta tgtgaagtag taatgttcag aaactgatta tttggatcag  
1800  
aaaccattga aactgcttca agaattgtat ctttaagtac tgctacttga ataactcagt  
1860  
taacgtgttt ttgaagctta catggacaaa tgtttaggac ttcaagatca cacttggtgg  
1920  
caatctgggg gagccacaac ttttcatgaa gtgcattgta tacaaaattc atagttatgt  
1980

ccaaagaata ggtaacatg aaaaccagat aagactttcc atcttggcag ccaccccttt  
 2040  
 taagagtaag ttggttactt caaaaagagc aaacactggg gatcaaatta ttttaagagg  
 2100  
 tatttcagtt ttaaagcaa aatagcctta ttttcattta gtttggttagc actatagtga  
 2160  
 gcttttcaaa cactatttta atctttatat ttaacttata aattttgctt tctatggaaa  
 2220  
 taaattttgt atttgtatta aaaattaact tttccctttt aaaaaaaaaa a  
 2271

<210> 4888

<211> 429

<212> PRT

<213> Homo sapiens

<400> 4888

Gly	Tyr	Ser	Cys	Leu	Lys	Cys	Phe	Ser	Phe	Val	Phe	Gln	Gly	Ile	Ser	1	5	10	15
Leu	Gly	Asp	Ile	Pro	Leu	Pro	Gly	Ser	Ile	Ser	Asp	Gly	Met	Asn	Ser	20	25	30	
Ser	Ala	His	Tyr	His	Val	Asn	Phe	Ser	Gln	Ala	Ile	Ser	Gln	Asp	Val	35	40	45	
Asn	Leu	His	Glu	Ala	Ile	Leu	Leu	Cys	Pro	Asn	Asn	Thr	Phe	Arg	Arg	50	55	60	
Asp	Pro	Thr	Ala	Arg	Thr	Ser	Gln	Ser	Gln	Glu	Pro	Phe	Leu	Gln	Leu	65	70	75	80
Asn	Ser	His	Thr	Thr	Asn	Pro	Glu	Gln	Thr	Leu	Pro	Gly	Thr	Asn	Leu	85	90	95	
Thr	Gly	Phe	Leu	Ser	Pro	Val	Asp	Asn	His	Met	Arg	Asn	Leu	Thr	Ser	100	105	110	
Gln	Asp	Leu	Leu	Tyr	Asp	Leu	Asp	Ile	Asn	Ile	Phe	Asp	Glu	Ile	Asn	115	120	125	
Leu	Met	Ser	Leu	Ala	Thr	Glu	Asp	Asn	Phe	Asp	Pro	Ile	Asp	Val	Ser	130	135	140	
Gln	Leu	Phe	Asp	Glu	Pro	Asp	Ser	Asp	Ser	Gly	Leu	Ser	Leu	Asp	Ser	145	150	155	160
Ser	His	Asn	Asn	Thr	Ser	Val	Ile	Lys	Ser	Asn	Ser	Ser	His	Ser	Val	165	170	175	
Cys	Asp	Glu	Gly	Ala	Ile	Gly	Tyr	Cys	Thr	Asp	His	Glu	Ser	Ser	Ser	180	185	190	
His	His	Asp	Leu	Glu	Gly	Ala	Val	Gly	Gly	Tyr	Tyr	Pro	Glu	Pro	Ser	195	200	205	
Lys	Leu	Cys	His	Leu	Asp	Gln	Ser	Asp	Ser	Asp	Phe	His	Gly	Asp	Leu	210	215	220	
Thr	Phe	Gln	His	Val	Phe	His	Asn	His	Thr	Tyr	His	Leu	Gln	Pro	Thr	225	230	235	240
Ala	Pro	Glu	Ser	Thr	Ser	Asp	Xaa	Phe	Pro	Xaa	Ala	Gly	Lys	Ser	Gln	245	250	255	
Lys	Ile	Arg	Ser	Arg	Tyr	Leu	Glu	Asp	Pro	Asp	Arg	Thr	Leu	Ser	Arg	260	265	270	
Asp	Asp	Gln	Arg	Ala	Lys	Ala	Leu	His	Ile	Pro	Phe	Ser	Val	Asp	Glu	275	280	285	
Ile	Val	Gly	Met	Pro	Val	Asp	Ser	Phe	Asn	Ser	Met	Leu	Ser	Arg	Tyr				



```

      290              295              300
Tyr Leu Thr Asp Leu Gln Val Ser Leu Ile Arg Asp Ile Arg Arg Arg
305              310              315              320
Gly Lys Asn Lys Val Ala Ala Gln Asn Cys Arg Lys Arg Lys Leu Asp
      325              330              335
Ile Ile Leu Asn Leu Glu Asp Asp Val Cys Asn Leu Gln Ala Lys Lys
      340              345              350
Glu Thr Leu Lys Arg Glu Gln Ala Gln Cys Asn Lys Ala Ile Asn Ile
      355              360              365
Met Lys Gln Lys Leu His Asp Leu Tyr His Asp Ile Phe Ser Arg Leu
      370              375              380
Arg Asp Asp Gln Gly Arg Pro Val Asn Pro Asn His Tyr Ala Leu Gln
385              390              395              400
Cys Thr His Asp Gly Ser Ile Leu Ile Val Pro Lys Glu Leu Val Ala
      405              410              415
Ser Gly His Lys Lys Glu Thr Gln Lys Gly Lys Arg Lys
      420              425

```

&lt;210&gt; 4889

&lt;211&gt; 619

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4889

```

nntgtttttc actttattat acaaaaaagg gaaaacaaaa cttccacagt tggctttaag
60
cataggcaga cacctctaag ccaactccctc ccacctccca tgatacaaat tcaagttgtg
120
gtggttggtg aatcctacaa aacactcctt aaatattaga aaagaagtta ggagctccca
180
gcacatttct tgaagcccag gttctgagcc tgggggtggcc aggcttggcc tctcagatga
240
acaggggaga ctttttccat caaatacaag ctttaagctt cacaccatct tgctgcctt
300
tccgccttcc tgctggacaa tggagaccag cagctcggat gcatgtgact ctggcagagg
360
gagcctggtc tgggaagcat ccgagaatgg cttcagcaca ctccccctaa tggaatcaga
420
gactgggcaa aacagaggat gtggagaacg gggcagcctc agcctgctcc caccagggtc
480
aacatctccc ggccctcacc gacccttttt ccagattcac aacaaactga tgtgggctct
540
aggacagacc cttttacaca cacacacaca cactcacact cttttgcaca catccacagc
600
tgcacccatg ctatgtaca
619

```

&lt;210&gt; 4890

&lt;211&gt; 90

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4890

```

Leu Trp Gln Arg Glu Pro Gly Leu Gly Ser Ile Arg Glu Trp Leu Gln

```

1		5		10		15									
His	Thr	Pro	Pro	Asn	Gly	Ile	Arg	Asp	Trp	Ala	Lys	Gln	Arg	Met	Trp
		20						25					30		
Arg	Thr	Gly	Gln	Pro	Gln	Pro	Ala	Pro	Thr	Arg	Val	Asn	Ile	Ser	Arg
		35						40					45		
Pro	Ser	Pro	Thr	Leu	Phe	Pro	Asp	Ser	Gln	Gln	Thr	Asp	Val	Gly	Ser
	50					55					60				
Arg	Thr	Asp	Pro	Phe	Thr	His	Thr	His	Thr	His	Ser	His	Ser	Phe	Ala
65					70					75					80
His	Ile	His	Ser	Cys	Thr	His	Ala	Met	Tyr						
				85					90						

&lt;210&gt; 4891

&lt;211&gt; 1998

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4891

```

ngggcaggac tgggtgggaca cagaagcggc cacagcctga cttgcaacat ttttctccag
60
cttgacaatt ctcatccatc acacagccaa caatgcacag gccaccaga acttttggac
120
aatcaccgcc ccgccctccc tcaatgtctc cgaggcaggt gcggccacag ccggtgctgc
180
agcatttatg cccctgggga caggatgcat ccccatcaca cagctcctca cacggaaggg
240
ggtcagcggg acattcacca ccaaactcct taggaatgtc tcggcagatc cgaccacagc
300
ctgtggtgca gcatttctgt tcagccggac acaattcatc gccctggcac agctctttgc
360
atgggttctt atcgggaggg cattctccct cttttgaagg cctctaagt taactgtcct
420
gggcgaggcg cggcggttcg gttcccatgg taaccccgca gctccagcgt cgcgcttcg
480
ggcggacgag cagcgcgctc cagtgcgctc acggcgccac tttccggccg gtgacagagt
540
ccagcggagt tgtggggggc gggggcgcca tgggagccac tggcgacgcc gagcagccgc
600
ggggacctag cggggccgag aggggcggct tggagctggg ggatgcgggc gcagcggggc
660
agctggttct tacggtgagg gcgccccga acccttgga cataatgata aagcaccggc
720
aggtgcagcg gaggggcccgc cgctcacaga tgacaacaag tttcacagat cctgccatct
780
ccatggatct cctccgagct gtctgcagc ccagcatcaa cgaggagatc cagactgtct
840
tcaacaagta cataaagttc ttccagaagg cagcactgaa cgtgcgagac aatgttgggg
900
aggaggtgga cgcagagcag ctgatccagg aagcctgtcg gagctgcctg gagcaggcta
960
naactgctct tttcagatgg agaaaaagta ataccagat tgacccatga gcttccagga
1020
ataaagcgtg gccgtcaggg agaagaagaa tgtgcccatc gaggaagccc ccttcctaaa
1080

```

aagaggaaaag gacggcctcc tggacacatc ctgtcaagcg accgggcagc cgccggcatg  
1140  
gtatggaaac caaaatcctg tgaaccaatt cgccgggaag gcccgaagtg ggacccagct  
1200  
cgctggaatg aatctaccac ctttgtgttg ggatctcgag ccaacaaagc cctggggatg  
1260  
gggggcacca gaggaagaat ctacatcaag caccacacc tctttaagta tgcagctgac  
1320  
ccccaggata agcactggct ggctgagcag catcacatgc gggcaacagg gggcaagatg  
1380  
gcctacctcc tcatcgagga ggacatccgg gaccttgagg ccagtgatga ttacagagga  
1440  
tgcctggatc tgaagctaga ggaattgaaa tcctttgtcc taccctcctg gatgggtggag  
1500  
aagatgagaa agtatatgga gacactacgg acagagaatg agcatcgtgc tgttgaagca  
1560  
cctccacaga cctgaggccg ggtcccctgg ccacacttgg cagccctcct ccaaagccct  
1620  
cttcctcacg tggtgagggc caccgctggg actgctccta gatggatctc agcggcatta  
1680  
agctgtgcct gagcgagttt gtagtgactc actgcacagc acccccagac tagcatgtgg  
1740  
ttctatattt gtaaagttat tgggataaga aacaattaaa cagttttagt taaacacaga  
1800  
tggtgaacct gctgtgccct ctaccttggt ggaattgaca gaacatcaag ggctctagaa  
1860  
gtgggtgtag gaaaaaagga cgagataacc ctcaccata acagtataga gccaggcttg  
1920  
ataagaccaa cctgggagca ccatgtaccc tgcccgctct ccctttgccc attttagtgg  
1980  
tccttaccga gctaatgt  
1998

&lt;210&gt; 4892

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4892

Ser	Arg	Lys	Pro	Val	Gly	Ala	Ala	Trp	Ser	Arg	Leu	Xaa	Leu	Leu	Phe
1				5					10					15	
Ser	Asp	Gly	Glu	Lys	Val	Ile	Pro	Arg	Leu	Thr	His	Glu	Leu	Pro	Gly
		20						25					30		
Ile	Lys	Arg	Gly	Arg	Gln	Ala	Glu	Glu	Glu	Cys	Ala	His	Arg	Gly	Ser
		35				40						45			
Pro	Leu	Pro	Lys	Lys	Arg	Lys	Gly	Arg	Pro	Pro	Gly	His	Ile	Leu	Ser
	50				55						60				
Ser	Asp	Arg	Ala	Ala	Ala	Gly	Met	Val	Trp	Lys	Pro	Lys	Ser	Cys	Glu
65				70					75					80	
Pro	Ile	Arg	Arg	Glu	Gly	Pro	Lys	Trp	Asp	Pro	Ala	Arg	Leu	Asn	Glu
			85					90						95	
Ser	Thr	Thr	Phe	Val	Leu	Gly	Ser	Arg	Ala	Asn	Lys	Ala	Leu	Gly	Met
			100					105					110		
Gly	Gly	Thr	Arg	Gly	Arg	Ile	Tyr	Ile	Lys	His	Pro	His	Leu	Phe	Lys

115	120	125
Tyr Ala Ala Asp Pro Gln Asp Lys His Trp Leu Ala Glu Gln His His		
130	135	140
Met Arg Ala Thr Gly Gly Lys Met Ala Tyr Leu Leu Ile Glu Glu Asp		
145	150	155
Ile Arg Asp Leu Ala Ala Ser Asp Asp Tyr Arg Gly Cys Leu Asp Leu		
165	170	175
Lys Leu Glu Glu Leu Lys Ser Phe Val Leu Pro Ser Trp Met Val Glu		
180	185	190
Lys Met Arg Lys Tyr Met Glu Thr Leu Arg Thr Glu Asn Glu His Arg		
195	200	205
Ala Val Glu Ala Pro Pro Gln Thr		
210	215	

&lt;210&gt; 4893

&lt;211&gt; 5212

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4893

```

nnctaaagga gtcccctgga aggcctccac aacctcacgc tagagtcaag aatggatatg
60
ttcagcttgg atatgatcat cagtgaacca gctgcagaag ccagcagggc tgggaagaag
120
cagctcagag gtgttcagaa cccttgccca tctgccagag ccagaccccg gcacaagtcc
180
ctcaacataa aggacaagat atcagaatgg gaaggggaaga aagaggtgcc cactcctgca
240
cccagcagga gagcagacgg acaggaggat tatctgccgt cctctacggt ggagaggagg
300
agtagtgatg gggtgagaac tcaggtcaca gaggctaaga atggaatgag gccaggaaca
360
gagagcacag agaaggagag gaataaagga gcagtgaacg tcggggggaca ggaccagag
420
ccggggcaag acctaagcca gccagaacgg gaagtggatc ctagctgggg ccgaggccga
480
gagccaagac ttggcaagct gcgctttcag aacgatcacc tctccgtgct gaagcaggtc
540
aagaaactcg agcaggcttt gaaggatggg tcggcagggc tggatcccca gttaccaggg
600
acttggtact cccacactg ccctcctgac aaggcagagg cagggtccac ccttctgag
660
aacctgggag gcgggagtgg ctcagaagtc agccagaggg tccaccctc ggacctggaa
720
ggcagggagc ccaccctga gcttgtggag gacaggaaag gttcatgcag aaggccctgg
780
gaccggagcc ttgagaacgt gtataggggc tcggagggtt cccccacaaa gcccttcac
840
aacctctgc caaaaccccg gagaacgttc aaacatgccg gagaagggga caaagatggg
900
aagcctggca tcggcttcag gaaagagaaa agaaatctgc ctctctgcc ctctctacct
960
ccccgcctc tgccctcctc tccccacct tcctctgtga acagaagact gtggaccggg
1020

```

agacagaaat ccagtgcaga ccacagaaag tcctatgagt ttgaagattt actgcagtct  
1080  
tcctctgaga gcagcagggt ggactggtac ggcagacta agctggggct gacacgcact  
1140  
ttatcggagg agaactgcta tgaagacatt ctagatccgc caatgaagga gaacccttat  
1200  
gaggacatcg agttacatgg tcgctgcctg ggaaagaagn ntgtgtcttg aattttcctg  
1260  
cttctccac ctnttccat ccctgacaca ctcaccaagc agtcattgtc caaacctgct  
1320  
tttttccgac aaaattcaga gaggaggaac ttcaagctgc tggacactag gaagctgagt  
1380  
cgggatggaa ctgggtcccc ttccaaaatc agccctccct ccactcccag cagccctgat  
1440  
gacattttct ttaaccttgg agaccacag aacggcagga agaagagaaa gatacccaag  
1500  
ctggtgttgc gaatcaacgc catttatgag gtccggagag gaaagaaacg ggtgaagagg  
1560  
ctgtcccagt caatggagag caactcagga aaagtgcagc atgagaacag tgagtctgac  
1620  
agtgcacag aggagaagct gaaagctcac agccagcgcc tggccaacgt gaagtcccgg  
1680  
ctgaagcagg cgctcggta cccatcactt gcccgggaac tcacgagta ccaggagagg  
1740  
cagctcttcg agtactttgt ggttgtgtct ttgcacaaga agcaggccgg ggctgcctac  
1800  
gtgccagaac tcaccaaca gtccctctg aagttgaaa ggtctttcaa gttcatgaga  
1860  
gaagctgagg accaactgaa ggccattccc cagttctgtt tcccgatgc caaggattgg  
1920  
gttcctgtcc agcagttcac cagtgaaca ttctcgttg tcttaactgg agaagatggg  
1980  
agcagaaggt tcggttactg ccgaagactg ctgcctggag gcaaagggaa gcgccttcc  
2040  
gaagtttact gcattgtgag ccgcctggga tgcttcagcc tcttttcaag gatcttggat  
2100  
gaggtggaaa aaagacgagg catctctcct gccctggttc agccactcat gagaagtgtc  
2160  
atggaagccc ctttcccagc cctgggcaaa accatccttg tcaagaactt cctgccaggt  
2220  
tcaggaactg aggtgatcga actgtgccgc ccgctggact cccggctcga gcacgtggac  
2280  
tttgagtctc tcttctctc cctcagcgtc cgccacctgg tctgtgtgtt tgctccctg  
2340  
cttctggaga ggagggtcat cttcattgca gacaagctca gcatcctgtc caagtgtgtc  
2400  
cacgcgatgg tggcgctgat ctaccccttc gcctggcagc acacctacat cccggtgctg  
2460  
ccaccgcga tggtcgacat cgtgtgtctg ccgacgcct tctcatcgg gctgtctctc  
2520  
agctcgctgc cactgtcag ggagctgccg ctggaagagg tccttgttgt tgacctcgtc  
2580  
aacagccggg tcctcagaca gatggacgat gaggactcca tcctgccccg gaagcttcag  
2640

gtggccctgg aacacattct ggaacagagg aacgagctgg cttgtgagca ggacgaaggg  
2700  
cccctagacg gcaggcacgg tccagagtcc agccccctga acgaggtggg gtctgaagcc  
2760  
tttgtccgct tcttcgtgga gattgtggga cactactctt tgttcctgac gtcgggagcg  
2820  
cgtgaggaga gaaccctgca gcgggaggcc ttccgcaaag ctgtctcctc caagagcctc  
2880  
cgccacttcc tggaggtctt catggagact cagatgtttc ggggcttcat ccaggagcgg  
2940  
gagctgcgcc ggcaggatgc caaaggtctg tttgaggtcc gagcccaaga gtatctggaa  
3000  
acactcccca gtggagagca cagcgtgtgc aataagttcc tgaagggact aggcaataaa  
3060  
atgaaatttc tccacaagaa ataactctca gcctcaaggg aaaacttcct cctagtgcag  
3120  
ccctatgctt taaaaacagt tcctgggtggc ctttctgaaa ggctgggtcc caggttgtca  
3180  
cgggtcggaa ctggaggccg cggtggcttc tggccgaggc tgggctcttc cctggatgag  
3240  
gacctgggag ccgcctggga ggacagcccc agaaaggag cccgagacca ggcgtgtcgc  
3300  
cgacatgcaa atgggttgtt ttgggtggtg ggtttttttt tttatcttag atattaaaag  
3360  
taagaaaaat gtgtgggttt tctgtttatt atgccaaggc caagaggagc ctgtcctgcc  
3420  
ctacacgttc ccctcgttcg tcccatccgg ccgctcagca atggagctaa gaggagtggg  
3480  
gatgggcaac agaaatgagg tgctcctcgg agcgggactg acgacacatg aggactgtga  
3540  
ggggaggagg cggagccggt gcctcgggtt caggagtgga ggcctcctag tgaaaggctg  
3600  
ggcccttgcc ctagagtgga ggctagggag gaacgggagc tgtagacgga tgtggcttcc  
3660  
cagacacgct gctcttcag aagggacagt gatgccacct ggtggccgag gccatggacg  
3720  
tctctcttcc caaatggacc tgactcttct tgactgcctt gttctcttag aagaagccat  
3780  
ggaactgtcc actgcctgag tagtcctcgg ctttttagagg cacacacaca aaaagaggtc  
3840  
agtaaactgt tctaggggtc ttcaagtta cgacactgct cacggccac cttccaacac  
3900  
atagccacaa ctttgacccc gttcccatct cattccaggg gccagagca gcattaatgc  
3960  
aatagtggat gtgcactgcc tgtacacggt gggggggcggg gggacctttt gcggctgatg  
4020  
gtaacaagat ggagggtgag aacgctgggg cggcgtcatg agccgtgtgc agccagagag  
4080  
gcagcttgcg ttttctggac cagaagcagg gaggggtgtg agaaggccaa aaacctcagg  
4140  
gcgacctaa agctgtcctg cagcggggac agtggggaca gcaggagacag cggggaggca  
4200  
ggaaaagccc cgaacacagc tgaggcaggt tctcagagca agcctcaggg ccactaccag  
4260

gtgacccctg ccctcagctc tcaccagcga ccctcacaga aacacaaaag ggagggggcgc  
 4320  
 cgacctcaac aatggcccag agggggccata ctgcctggca ggggtttctca accttttaggg  
 4380  
 agcgggagca agggggccttc cgaggataaa tagaaatgag gaaaatgagg ggaggtgacc  
 4440  
 tctcatcctt cctcttagct ggagttatgg accccctcgc ccctccaagt tctaccagg  
 4500  
 ctttgggtgtg tccattactt tttcagaggt gaagatccac agtttacatc aaattctcaa  
 4560  
 agatgtcccc agaatggtag aaaccaggct gtgcataaaa attaacctgc ctggctgggc  
 4620  
 gcggtgactc acacctgtaa tctcagcact ttgagaggcc aaggcaggtg ggtggatcac  
 4680  
 ttgaggtcag gagttcgagg ccagcctggc caacatggca aaactccgtc tgtactaaaa  
 4740  
 atacaagaaa aacttagcca gccatggtgg tgcgtgcctg ttatcccaac tacctggaag  
 4800  
 gctgaggcag aagaatcgct tgaactgggg aggagaaggt tgcagtgagc cgagatcatg  
 4860  
 ccactgcact ccagcctgga caacagagca agactccttc tcaaaaaaac tctggctggg  
 4920  
 tgtgtgtggg tggggactag ggggatgcct gaatgagaat ccctgaatcc ttgagtgtgg  
 4980  
 gggttcagga atatgtatct aacaagctcc ttggattagt caagtttgtg tgggggctca  
 5040  
 ggaatatatg tatctagcaa gctcctcaga ctagtcaact ttcttaatag tctgcatatt  
 5100  
 tgtatatgac ccagaaaggg acactttttg gaatatactt tctttttttt aacttatttc  
 5160  
 gcattatatt gtttacttaa taactccaag caaataaatg tacatcttta tc  
 5212

<210> 4894

<211> 399

<212> PRT

<213> Homo sapiens

<400> 4894

Met	Asp	Met	Phe	Ser	Leu	Asp	Met	Ile	Ile	Ser	Asp	Pro	Ala	Ala	Glu
1				5				10					15		
Ala	Ser	Arg	Ala	Gly	Lys	Lys	Gln	Leu	Arg	Gly	Val	Gln	Asn	Pro	Cys
			20					25					30		
Pro	Ser	Ala	Arg	Ala	Arg	Pro	Arg	His	Lys	Ser	Leu	Asn	Ile	Lys	Asp
			35					40					45		
Lys	Ile	Ser	Glu	Trp	Glu	Gly	Lys	Lys	Glu	Val	Pro	Thr	Pro	Ala	Pro
			50					55				60			
Ser	Arg	Arg	Ala	Asp	Gly	Gln	Glu	Asp	Tyr	Leu	Pro	Ser	Ser	Thr	Val
65						70				75					80
Glu	Arg	Arg	Ser	Ser	Asp	Gly	Val	Arg	Thr	Gln	Val	Thr	Glu	Ala	Lys
						85				90					95
Asn	Gly	Met	Arg	Pro	Gly	Thr	Glu	Ser	Thr	Glu	Lys	Glu	Arg	Asn	Lys
						100				105					110
Gly	Ala	Val	Asn	Val	Gly	Gly	Gln	Asp	Pro	Glu	Pro	Gly	Gln	Asp	Leu

115	120	125
Ser Gln Pro Glu Arg Glu Val Asp Pro Ser Trp Gly Arg Gly Arg Glu		
130	135	140
Pro Arg Leu Gly Lys Leu Arg Phe Gln Asn Asp His Leu Ser Val Leu		
145	150	155
Lys Gln Val Lys Lys Leu Glu Gln Ala Leu Lys Asp Gly Ser Ala Gly		160
165	170	175
Leu Asp Pro Gln Leu Pro Gly Thr Cys Tyr Ser Pro His Cys Pro Pro		
180	185	190
Asp Lys Ala Glu Ala Gly Ser Thr Leu Pro Glu Asn Leu Gly Gly Gly		
195	200	205
Ser Gly Ser Glu Val Ser Gln Arg Val His Pro Ser Asp Leu Glu Gly		
210	215	220
Arg Glu Pro Thr Pro Glu Leu Val Glu Asp Arg Lys Gly Ser Cys Arg		
225	230	235
Arg Pro Trp Asp Arg Ser Leu Glu Asn Val Tyr Arg Gly Ser Glu Gly		240
245	250	255
Ser Pro Thr Lys Pro Phe Ile Asn Pro Leu Pro Lys Pro Arg Arg Thr		
260	265	270
Phe Lys His Ala Gly Glu Gly Asp Lys Asp Gly Lys Pro Gly Ile Gly		
275	280	285
Phe Arg Lys Glu Lys Arg Asn Leu Pro Pro Leu Pro Ser Leu Pro Pro		
290	295	300
Pro Pro Leu Pro Ser Ser Pro Pro Pro Ser Ser Val Asn Arg Arg Leu		
305	310	315
Trp Thr Gly Arg Gln Lys Ser Ser Ala Asp His Arg Lys Ser Tyr Glu		
325	330	335
Phe Glu Asp Leu Leu Gln Ser Ser Ser Glu Ser Ser Arg Val Asp Trp		
340	345	350
Tyr Ala Gln Thr Lys Leu Gly Leu Thr Arg Thr Leu Ser Glu Glu Asn		
355	360	365
Val Tyr Glu Asp Ile Leu Asp Pro Pro Met Lys Glu Asn Pro Tyr Glu		
370	375	380
Asp Ile Glu Leu His Gly Arg Cys Leu Gly Lys Lys Xaa Val Ser		
385	390	395

&lt;210&gt; 4895

&lt;211&gt; 1087

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4895

gcggaatgtc aactattcaa catggaggcg gaggtcgata agctggaact gatgttccag  
60  
aaagctgagt ctgatctgga ttacattcaa tacaggctgg aatatgaaat caagactaat  
120  
catcctgatt cagcaagtga gaaaaatcca gttacactct taaaggaatt gtcagtata  
180  
aagtctcgat atcaaacctt gtatgccgc tttaaaccag ttgctgttga gcagaaagag  
240  
agtaagagcc gcatttgtgc tactgtgaaa aagactatga atatgatata aaaactacag  
300  
aagcaaacag acctggagggt aatgctttca gttgacagct gtcaccactg actaaagaag  
360



agaaaactgc ggcagagcaa ttcaaatttc acatgccaga tttatgaaga aatggacttg  
 420  
 gaaaggaaat tctaacagag aagagcttaa ttccggagaa atttaggaag atgtcttggt  
 480  
 aacccttgat gtctagagat tgggggctgg tgaagggggt ttggcttcaa tgactggata  
 540  
 atgatatctt tcatgagaga gattataaga agaagggcag ataatatatg aataaagttc  
 600  
 agccaaaagg atcaaagtga aataaaacga tttaaataata tgtacacacg catgcacaca  
 660  
 cacacttagt cttgtaattt caggccagaa attctcaaca ctattttgca tctgttttct  
 720  
 ttttctaagt catgataata tagatgttct ggtctatcat aaaagaatgt ttatgtacat  
 780  
 ttcaagtcatt cggatgtgg ctttgtaaata taaagtatag gcaaaacatt tgtgttatac  
 840  
 atgatataata atttcatttt gtaaagtgtg attgcacatg tggtcacatt attgttgaga  
 900  
 ctgcttttat gtgacctgta gtctcccaca gaacctaaag taataagctg gcttttctgt  
 960  
 gatagccacg tttgcgtatt tctttcccta tttcccttgc ctgctaattg tgaacagcat  
 1020  
 gaacttgctt tctgatgctg ttttagactg tccctgttgt atctcaataa tatctttggt  
 1080  
 ttccttc  
 1087

<210> 4896

<211> 109

<212> PRT

<213> Homo sapiens

<400> 4896

Met	Glu	Ala	Glu	Val	Asp	Lys	Leu	Glu	Leu	Met	Phe	Gln	Lys	Ala	Glu
1				5				10					15		
Ser	Asp	Leu	Asp	Tyr	Ile	Gln	Tyr	Arg	Leu	Glu	Tyr	Glu	Ile	Lys	Thr
			20					25					30		
Asn	His	Pro	Asp	Ser	Ala	Ser	Glu	Lys	Asn	Pro	Val	Thr	Leu	Leu	Lys
			35				40						45		
Glu	Leu	Ser	Val	Ile	Lys	Ser	Arg	Tyr	Gln	Thr	Leu	Tyr	Ala	Arg	Phe
	50					55					60				
Lys	Pro	Val	Ala	Val	Glu	Gln	Lys	Glu	Ser	Lys	Ser	Arg	Ile	Cys	Ala
65					70			75					80		
Thr	Val	Lys	Lys	Thr	Met	Asn	Met	Ile	Gln	Lys	Leu	Gln	Lys	Gln	Thr
			85					90					95		
Asp	Leu	Glu	Val	Met	Leu	Ser	Val	Asp	Ser	Cys	His	His			
			100					105							

<210> 4897

<211> 1733

<212> DNA

<213> Homo sapiens

<400> 4897

nactttgttg cccgggctgg agtgcagtgg cgcgatctca gctcactgca gcctctgcct  
60  
ctcaggttca agcaattctc ctgcttcagc ctcccaagta gctgggatta caggcgccca  
120  
ccacgatgcc cagctaattt ttgtattttc agtaaagaca gggtttcacc atgttggcta  
180  
ggctgggtctc aaactcctga tncacccgc ctcggcctcc caaagtgtg ggattacagg  
240  
cgtgaaccac cgcgcccggg tgaccttgg aacttctgac cgactggctt caagttgagg  
300  
ttcccacaat tccctctgta ggttcaattt gctggagtgg ctcaaaaac taagggaat  
360  
acatttactg gtttattata aaggatatta taaaagatac agataaagag atgcataggg  
420  
tgaggatga aggaaggga tggagcttcc tgtgccctcc ctgggcgcac cacccttcta  
480  
gaacctctgt atgttcagtt atctggaagc tctctgaatc cagtccctt ggtttttatg  
540  
gaagcttcat gacagcagca ttccttctag caggatatgg ggtgggaccg tctctggaat  
600  
gagttttatg acccaccatc agaaaggtag ggaagattag agtcctgtct tgggcaggta  
660  
aaaggaaggg caggagggtta gagtgattgt ctctgaggc ctgacacacc caatgttgta  
720  
acaaaagagt gtaacaaggg ctgtgggagt tatgagccag gaactgtgga cgaaaatgaa  
780  
tgcgtgtgtt tgtatatatg tgtgtctgtg tatttatata tatatgtgtg tatatacaaa  
840  
tacacacaca cacacgccac cacaaagcca aaaaagaaga agtgatcatt tttctaagtg  
900  
ctacgatgga tgccctggga gagcgagcca gagggggcat gtttatgggc tgagctgcac  
960  
ccccccacc ccaatttatg tgttgaacct ctaatccccg gtagctcgca atggcccgt  
1020  
tgtgaatgga tatggagata agagaggtga ttacattaag atgaggccgt cagggggccc  
1080  
ctcatccaat ctaccagtg tcttataag agaaaatctg gacacacaaa gagacaccag  
1140  
ggacacctgc actcagaaga ccaaccaggg ccatctccaa gccaaggaga gaggccttag  
1200  
aagaaaccaa cctgcgaaac accttggctt tggacttcca gcctccagga ctgtgagaaa  
1260  
ataaatgtct tttgtttaag ccaactcagc tctgggtattt tcttatgaga gccagagcag  
1320  
accaacacag agggtcaggg gaagcgtcta tggggaggtg actcatgtac tgagtcttga  
1380  
gggagaggtt tccaggcaga tggagcagca tgctccaagg ccttgtgaag gaaaagagct  
1440  
cagtgtgtc cgggaaccag gagaagatga gggaggccag ggcctaagga gggcagggt  
1500  
ggagaggaag tgggaagaca tgcaggggac atgtgcacag ggctgggaag gagcctgagt  
1560  
tttcttctca gtgccatgtg aagccactga agagtttta tgagaaaagg gacataagtc  
1620

agctcctatt ttaggaggtg gcctctggct gtgtctaata gagttgacaa gaataaaagt  
 1680  
 agaaggagaa gaccaaggag gaggacgcca ggtgagagca ggtggtggtc agg  
 1733

<210> 4898  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

<400> 4898  
 Xaa Phe Val Ala Arg Ala Gly Val Gln Trp Arg Asp Leu Ser Ser Leu  
 1 5 10 15  
 Gln Pro Leu Pro Leu Arg Phe Lys Gln Phe Ser Cys Phe Ser Leu Pro  
 20 25 30  
 Ser Ser Trp Asp Tyr Arg Arg Pro Pro Arg Cys Pro Ala Asn Phe Cys  
 35 40 45  
 Ile Phe Ser Lys Asp Arg Val Ser Pro Cys Trp Leu Gly Trp Ser Gln  
 50 55 60  
 Thr Pro Asp Xaa Thr Arg Leu Gly Leu Pro Lys Cys Trp Asp Tyr Arg  
 65 70 75 80  
 Arg Glu Pro Pro Arg Pro Gly Asp Leu Trp Asn Phe  
 85 90

<210> 4899  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 4899  
 ccggcccatc aaagactggc taaagcatca gccataaatg gggacaaacg tggggccagc  
 60  
 agcttctgtt cggggtctcg gcatcagcaa accgcagcag ctttggagaa gggccgtga  
 120  
 gtggcggctc tggaggcagc aacgggggtcc tttgggggtgg gtgggagttc tgctggattc  
 180  
 aggtggaggt gaacatctgc cgttcccaca gccctgcgtg ccccccaaa tgctgctggc  
 240  
 ccacagaatc agccagtgc acggccccac cacagccagg cttggccctg tcagcggcca  
 300  
 gcatcccgag ggccagggtc cgagtgtcct caccaaggag gctcttggcg tcgctgtgcc  
 360  
 ggctcccatg ggccttctgc tgggtcgagg gtaggtctcc tcctccccct ttgccctggc  
 420  
 attaaactga tggtcaggct ggga  
 444

<210> 4900  
 <211> 118  
 <212> PRT  
 <213> Homo sapiens

<400> 4900  
 Met Gly Thr Asn Val Gly Pro Ala Ala Ser Val Arg Gly Leu Gly Ile



tggcctcctt gaactgtggg gtccaggaga ctccctgaac tgctagccct cccctttgtc  
 1020  
 tgtttatcta attctcaggt atgaggcttt agtcacttct ctttacagat atcaaagctc  
 1080  
 agctctttga aacatccagc aagacaggcc agagtgtggg tgagtgtgtg gctggagcct  
 1140  
 cacagcagga acatgcaggg gcaccagagg aagctgaata gggcacagag ggctgggtca  
 1200  
 ctgggagatc ccagggctac tggcattggg ccctcgctga tcatcatttt tcctgccaga  
 1260  
 cgagctcttc cagaaagtgg cagaggatta cgtcagtgtg gctgccttcc aggtgatgac  
 1320  
 agaggacaag ggcgtggatc tgggccagaa gccaaacccc tacttctaca gctgttgtca  
 1380  
 tctactgagtc agcactcacc tggcctgggg gaattaaagg aattccccgt aagcgtggac  
 1440  
 ccagctcctt tctgggcttg ggtagtcaaa tgtctgagct acgccaggtc ctcatgtcag  
 1500  
 cagagtggcg cctgcctgtc  
 1520

<210> 4902

<211> 184

<212> PRT

<213> Homo sapiens

<400> 4902

Met	Ser	Gly	Gln	Arg	Val	Asp	Val	Lys	Val	Val	Met	Leu	Gly	Lys	Glu
1				5				10						15	
Tyr	Val	Gly	Lys	Thr	Ser	Leu	Val	Glu	Arg	Tyr	Val	His	Asp	Arg	Phe
			20					25					30		
Leu	Val	Gly	Pro	Tyr	Gln	Asn	Thr	Ile	Gly	Ala	Ala	Phe	Val	Ala	Lys
		35					40					45			
Val	Met	Ser	Val	Gly	Asp	Arg	Thr	Val	Thr	Leu	Gly	Ile	Trp	Asp	Thr
	50				55					60					
Ala	Gly	Ser	Glu	Arg	Tyr	Glu	Ala	Met	Ser	Arg	Ile	Tyr	Tyr	Arg	Gly
65				70					75					80	
Ala	Lys	Ala	Ala	Ile	Val	Cys	Tyr	Asp	Leu	Thr	Asp	Ser	Ser	Ser	Phe
			85					90						95	
Glu	Arg	Ala	Lys	Phe	Trp	Val	Lys	Glu	Leu	Arg	Ser	Leu	Glu	Glu	Gly
		100					105					110			
Cys	Gln	Ile	Tyr	Leu	Cys	Gly	Thr	Lys	Ser	Asp	Leu	Leu	Glu	Glu	Asp
	115					120					125				
Arg	Arg	Arg	Arg	Arg	Val	Asp	Phe	His	Asp	Val	Gln	Asp	Tyr	Ala	Asp
	130				135					140					
Ser	Ser	Cys	Ser	Ser	Ala	Leu	Trp	Gly	Val	Gly	Val	Cys	Gly	Cys	Leu
145				150					155					160	
Gly	Gly	Ser	Lys	Lys	Ile	Gly	Thr	Ala	Leu	Ala	Ala	Arg	Ala	Arg	Cys
			165					170						175	
Ser	Arg	Arg	Ser	Ser	Trp	Pro	Pro								
			180												

<210> 4903

<211> 1064

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4903

agccagtgtc ccaggcggtc tcacgccgca acaattcctg agtagggcct tgcttgagtt  
60  
cttcggaaag tctcatccac ccccatcgc cctctttagg aagtcactta atgttgggct  
120  
tcattattcc cacatccctt tccttactac ttgctgcac ttcttgagaa aaagactgca  
180  
gaaaggagag gtggggcttt cagtagaaac aagcaaaccg cagtccctgt ggggggactc  
240  
tccaggaaga aggttccgca agaaccgtgg gcgacagtta tggagaagcg tctgcaggag  
300  
gtcagctgt acaaggagga agggaaccag cgctaccggg aagggaagta ccgagatgct  
360  
gtgagtaggt accatcgagc tctgcttcag ctgcggggtc tggatccgna gtctgccctc  
420  
tccgttacct aatctcggac ctcaggggcc nggccctcac gcctgnaaca agaaaacata  
480  
ttgcatacca cccagacaga ctgctataac aatctagctg cttgtctcct tcagatggag  
540  
cccgtgaact acgaacgagt gagagaatat agtcagaaag tcctggaacg acagcctgat  
600  
aatgccaaag ccttgatcgc ggccggagtg gcctttttcc atctgcagga ctatgaccag  
660  
gcccgcact acctcctggc tgccgtgaat aggcagccta aagatgccaa cgtccggcgg  
720  
tacctccagc tgacacagtc agaactcagc agctaccata gaaaagagaa gcagctctac  
780  
ctgggcatgt ttgggtaaca aagaagaaag atgctcctcc agttgaactt aggtggacca  
840  
ttaaacatgc atgaaggaga aatctgagcc tcagcaagag aaattaaccc tatacctctg  
900  
accaggtgg atttttgttt ctagttctgc acaaacttca ctacttagac agtctgagtc  
960  
tttttctgct tatccatctg tttatttcta tacctttcaa tacatgttat tgttgagat  
1020  
atttggttg agaaatataa tcagaaaaca taaaaaaaaa aaaa  
1064

&lt;210&gt; 4904

&lt;211&gt; 106

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4904

Cys	Trp	Ala	Ser	Leu	Phe	Pro	His	Pro	Phe	Pro	Tyr	Tyr	Leu	Pro	Ala
1				5				10					15		
Leu	Leu	Glu	Lys	Lys	Thr	Ala	Glu	Arg	Arg	Gly	Gly	Ala	Phe	Ser	Arg
			20					25				30			
Asn	Lys	Gln	Thr	Ala	Val	Pro	Val	Gly	Gly	Leu	Ser	Arg	Lys	Lys	Val
		35					40				45				
Pro	Gln	Glu	Pro	Trp	Ala	Thr	Val	Met	Glu	Lys	Arg	Leu	Gln	Glu	Ala

50                                      55                                      60  
 Gln Leu Tyr Lys Glu Glu Gly Asn Gln Arg Tyr Arg Glu Gly Lys Tyr  
 65                                      70                                      75                                      80  
 Arg Asp Ala Val Ser Arg Tyr His Arg Ala Leu Leu Gln Leu Arg Gly  
                                     85                                      90                                      95  
 Leu Asp Pro Xaa Ser Ala Leu Ser Val Thr  
                                     100                                      105

&lt;210&gt; 4905

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4905

cccggcagcc acgtggcgga tgggtgttccg cgacaggctc agatgcagca ggctgtcat  
 60  
 gttggccagg tcgcgggcgc gcacggaggc gatgaagttg tctgccagcc gcagctcggc  
 120  
 tgcccggcgg tccagcgagg gtggcacgaa caggaggcct gcccctgggc acagcacgct  
 180  
 taggggcagc gactgtgtct ggcagcggca gggcggggga catgggctgg gtgtgccgag  
 240  
 acactggagg acctcgacct ctctacaac aacctcgagc agctgccctg ggaggccctg  
 300  
 ggccgcctgg gcaacgtcaa cacgttgggc ctgcaccaca acctgctggc ttctgtgccc  
 360  
 gccggcgctt tttcccgctt gcacaagctg gccgggctgg acatgacctc caaccgctg  
 420  
 accacaatcc caccgcagcc actcttctcc cgctgcccc tgctcgccag gcccggggg  
 480  
 tcgcccgcct ctgccctggt gctggccttt ggcggaacc cctgcactg caactgcgag  
 540  
 ctggtgtggc tgcgtgcctt ggcggggag gacgacctg aggctgcgc gteccacct  
 600  
 gctctgggcg gccgc  
 615

&lt;210&gt; 4906

&lt;211&gt; 144

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4906

Gly Gln Arg Leu Cys Leu Ala Ala Ala Ala Ala Gly Thr Trp Ala Gly  
 1                                      5                                      10                                      15  
 Cys Ala Glu Thr Leu Glu Asp Leu Asp Leu Ser Tyr Asn Asn Leu Glu  
                                     20                                      25                                      30  
 Gln Leu Pro Trp Glu Ala Leu Gly Arg Leu Gly Asn Val Asn Thr Leu  
                                     35                                      40                                      45  
 Gly Leu Asp His Asn Leu Leu Ala Ser Val Pro Ala Gly Ala Phe Ser  
                                     50                                      55                                      60  
 Arg Leu His Lys Leu Ala Arg Leu Asp Met Thr Ser Asn Arg Leu Thr  
 65                                      70                                      75                                      80  
 Thr Ile Pro Pro Asp Pro Leu Phe Ser Arg Leu Pro Leu Leu Ala Arg

				85					90					95			
Pro	Arg	Gly	Ser	Pro	Ala	Ser	Ala	Leu	Val	Leu	Ala	Phe	Gly	Gly	Asn		
			100					105					110				
Pro	Leu	His	Cys	Asn	Cys	Glu	Leu	Val	Trp	Leu	Arg	Arg	Leu	Ala	Arg		
		115					120					125					
Glu	Asp	Asp	Leu	Glu	Ala	Cys	Ala	Ser	Pro	Pro	Ala	Leu	Gly	Gly	Arg		
	130					135					140						

```
<210> 4907
<211> 1748
<212> DNA
<213> Homo sapiens
```

```

<400> 4907
nnttttttgc t ggaaaatact ttttaattat gaacatgtta aaaataaaaa acagcagaag
60
ccctgatatt acctcttttt cctcattttt tatactacct tttaaaataa agcaggaaat
120
gtggccagca gctgggtccc tctcttctgc cccaacagct gtatccacag gttgtgaggg
180
gggaacgact gttctgtaac ccctacaacg gagcctggca ggaaggaaat cacctaaaaa
240
agaaactgtc agagagattt aatagtcaca tggtatcatt aggagttggg tactgtgtca
300
cattcatgct tttagctaaa cactttaaga ttcaatatta ctttttttct ctccctctgaa
360
atgtgtccgg tgaagatgtc ccactaagggt aagtttgaca tgggtgtaagg gagttgaaaag
420
gggtaaacgc ggataaagag cagattactt gaccctacat tttaagagaa gacgacgcct
480
tccggggcgc cgccgagcag aactccaccg acaccttatt cttgtccaca tgggagacaga
540
ctcctcccgc cgagtcgtcc tcttccagca ggtcctgctt ctgctttccc accggcagag
600
cgtagtcgtg gtcaccggcg ggcgagtcct tgaagagcga ggtggtcagc cgcagtccca
660
cgccgctcag ccgggtcagc aagcgagcca gtccagtcct gttggctaag actgcccgtg
720
ggtagcgact ctccctctgc agtgccctgta cgcgtttgcc cagctcccga ttctcggccc
780
gcagctcctg gttctcgggt gccagacccc ggactcgact ctccagcccc atcacgtact
840
cttctttctt cagtcgatta aggcggggcag cggccggcgc cgccttccgg ggactctttg
900
tcgccgcctn ggttggtgtc gttaccgctg ccgccaccgc cgcctcctcc tggggacttt
960
ctccgcctct tttcgggcgt gccactgtca ctgctgctgc ctgctgctgc agcctccgat
1020
accgtttaac agcctttgca gnncagggtcagaagaagcgt gcatttcagc agccgcgggc
1080
tcacgtcat cgtccctctt ccacaggccg ccgctatccg agcctccgcc agacgaggag
1140
agaggccccc nggcgagcta agcccgggggt ccagggtgcc gtccgggtgc ctgggggtcca
1200

```



ggagatccgc cagttccagc ccagacagaa agtccatata ctccgtctct tccccggga  
 1260  
 ggctggcgat cgcctcctcc tccatctcct cgggggaggg cgcgcgcacg gccacgcgcg  
 1320  
 cgcggctccc cctccnccgc ttccaactct ccttcgtcgc caaactgctg cttgcggccg  
 1380  
 ggagatccgg ccgcgcgcgt ctccctcctcc cccgctgcag cccgggtcag gtcagagggc  
 1440  
 agcgaacaag ttgcagccgg ctccgggctc tccctgcggg ttggggagtt gctgcccag  
 1500  
 gctgccagca gcttggtcag gctatgcctc atgagggcca cgggcggccg cggtagcccc  
 1560  
 ggccgctaag agtgggtcac gggccccaag gatccaggc cccagggcgg gtagccccg  
 1620  
 gcactggccg aaacgaaatg cagggaaagg tccgagtcgc ctccgcctc acttggttag  
 1680  
 tcgcacccaa ggcgcgggga gggacgggag aacgaagcgg tgaggccctg cgatgactcg  
 1740  
 accgcgcc  
 1748

<210> 4908

<211> 55

<212> PRT

<213> Homo sapiens

<400> 4908

Glu	Lys	Thr	Thr	Pro	Ser	Gly	Arg	Thr	Pro	Ser	Arg	Thr	Pro	Pro	Thr
1				5				10					15		
Pro	Tyr	Pro	Cys	Pro	His	Gly	Asp	Arg	Leu	Leu	Pro	Pro	Ser	Arg	Pro
			20					25					30		
Leu	Pro	Ala	Gly	Pro	Ala	Ser	Ala	Phe	Pro	Pro	Ala	Glu	Arg	Ser	Arg
		35					40					45			
Gly	His	Arg	Arg	Ala	Ser	Leu									
	50					55									

<210> 4909

<211> 1960

<212> DNA

<213> Homo sapiens

<400> 4909

nacgcgtcct gcggtcagga cagtgttcta agtgtgaagg gtccctgggc agaggctggg  
 60  
 aggttgccca gagaccaggg agggcccctc catctggtgg gtttgccagg tgtgtccccg  
 120  
 cgcggctccc cgaaccggaa gtggaggtga gctgtcgcgg gcggcgcccg gccttgetca  
 180  
 acgcccagca gtccccaccg tcgtgccgc cgcaccgcc ctcgcccgct gccgaggcct  
 240  
 cctgcagcca tcatgtccgc cagcgcgcgt tacgtgctgg acctgaaggg caaggtgctc  
 300  
 atctgccgga actaccgtgg cgacgtggac atgtcagagg tggagcactt catgcccatc  
 360

ctgatggaga aggaggagga ggggatgctg tcgcccaccc tggcccacgg gggggtccgt  
420  
ttcatgtgga tcaaacacaa caacctgtat ctggttgcca catccaagaa gaacgcgtgc  
480  
gtgtcgctgg tcttttcttt cctctataag gtggtgcagg tgttttccga gtacttcaag  
540  
gagctggagg aggagagcat ccgggacaac tttgttatca tctacgagct gctggacgag  
600  
ctcatggact tcggcttccc ccagaccacc gacagcaaga tcctgcagga gtacatcact  
660  
cagcagagca acaagctgga gacgggcaag tcacgggtgc caccactgt caccaacgct  
720  
gtgtcctggc gctccgaggg tatcaagtat aagaagaacg aggtcttcat tgatgtcata  
780  
gagtctgtca acctgctggt caatgccaac ggcagcgtcc ttctgagcga aatcgtcggg  
840  
accatcaaga tgcgagtctt cctctcgggc atgcccagac tgcgcctggg cctcaacgac  
900  
aaggctcctt ttgacaacac gggccgcggc aaaagcaa at ccgtggagct ggaggatgtg  
960  
aagttccacc agtgtgtgcg gctatcacgc ttcgagaatg accgcaccat ctccttcac  
1020  
ccaccgacg gcgagttcga gctcatgtcc taccgtctca acaccacgt caagcctttg  
1080  
atatggatcg agtctgtcat tgagaagttc tcccacagcc gcatcgagta catggtcaag  
1140  
gccaaggggc agtttaagaa acagtcagtg gccaacgggtg tggagatata tgtgcctgta  
1200  
cccagcgatg ccgactcccc cagattcaag accagtgtgg gcagcgccaa gtatgtgccg  
1260  
gagagaaacg tcgtgatttg gagtattaag tctttcccg ggggcaagga gtacttgatg  
1320  
cgagccact ttggcctccc cagtgtggaa aaggaagagg tggaggggccg gcccccatc  
1380  
ggggtcaagt ttgagatccc ctacttcacc gtctctggga tccaggtccg atacatgaag  
1440  
atcattgaga aaagtgggta ccaggccctg ccctgggttc gctacatcac ccagagtggc  
1500  
gattaccaac ttcgtaccag ctagaaggga gaagagatgg gggcttgaac acggggcttc  
1560  
cttacagccc cggatgcaga ttttagaggg agggcaggtg cgggctgtgt gtgtctgtgt  
1620  
gagggcaggt cctggacttg gcagtttctt gctcccagca cccgccctt cctcacctct  
1680  
tccttattcc ataggctggg agagaaactc tctctgcttc cctcgccctt ggagctttcc  
1740  
ccatccccct gattttatat gaagaaatag aagaggggct tgaagtcccc ctcgcgagtg  
1800  
ccttcttgca attacctgcc ttagcgggtg ttgcgggtcc ctccttcaca gccgctgagc  
1860  
ccagaggtcc cgctggcccc tcctctgaat tttaggatgt cattaaaaag atgaatctaa  
1920  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
1960

<210> 4910  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 4910

```

Met Ser Ala Ser Ala Val Tyr Val Leu Asp Leu Lys Gly Lys Val Leu
 1           5           10           15
Ile Cys Arg Asn Tyr Arg Gly Asp Val Asp Met Ser Glu Val Glu His
      20           25           30
Phe Met Pro Ile Leu Met Glu Lys Glu Glu Glu Gly Met Leu Ser Pro
      35           40           45
Ile Leu Ala His Gly Gly Val Arg Phe Met Trp Ile Lys His Asn Asn
      50           55           60
Leu Tyr Leu Val Ala Thr Ser Lys Lys Asn Ala Cys Val Ser Leu Val
65           70           75           80
Phe Ser Phe Leu Tyr Lys Val Val Gln Val Phe Ser Glu Tyr Phe Lys
      85           90           95
Glu Leu Glu Glu Glu Ser Ile Arg Asp Asn Phe Val Ile Ile Tyr Glu
      100          105          110
Leu Leu Asp Glu Leu Met Asp Phe Gly Phe Pro Gln Thr Thr Asp Ser
      115          120          125
Lys Ile Leu Gln Glu Tyr Ile Thr Gln Gln Ser Asn Lys Leu Glu Thr
      130          135          140
Gly Lys Ser Arg Val Pro Pro Thr Val Thr Asn Ala Val Ser Trp Arg
145          150          155          160
Ser Glu Gly Ile Lys Tyr Lys Lys Asn Glu Val Phe Ile Asp Val Ile
      165          170          175
Glu Ser Val Asn Leu Leu Val Asn Ala Asn Gly Ser Val Leu Leu Ser
      180          185          190
Glu Ile Val Gly Thr Ile Lys Met Arg Val Phe Leu Ser Gly Met Pro
      195          200          205
Glu Leu Arg Leu Gly Leu Asn Asp Lys Val Leu Phe Asp Asn Thr Gly
      210          215          220
Arg Gly Lys Ser Lys Ser Val Glu Leu Glu Asp Val Lys Phe His Gln
225          230          235          240
Cys Val Arg Leu Ser Arg Phe Glu Asn Asp Arg Thr Ile Ser Phe Ile
      245          250          255
Pro Pro Asp Gly Glu Phe Glu Leu Met Ser Tyr Arg Leu Asn Thr His
      260          265          270
Val Lys Pro Leu Ile Trp Ile Glu Ser Val Ile Glu Lys Phe Ser His
      275          280          285
Ser Arg Ile Glu Tyr Met Val Lys Ala Lys Gly Gln Phe Lys Lys Gln
      290          295          300
Ser Val Ala Asn Gly Val Glu Ile Ser Val Pro Val Pro Ser Asp Ala
305          310          315          320
Asp Ser Pro Arg Phe Lys Thr Ser Val Gly Ser Ala Lys Tyr Val Pro
      325          330          335
Glu Arg Asn Val Val Ile Trp Ser Ile Lys Ser Phe Pro Gly Gly Lys
      340          345          350
Glu Tyr Leu Met Arg Ala His Phe Gly Leu Pro Ser Val Glu Lys Glu
      355          360          365
Glu Val Glu Gly Arg Pro Pro Ile Gly Val Lys Phe Glu Ile Pro Tyr

```

370		375		380
Phe Thr Val Ser Gly Ile Gln Val Arg Tyr Met Lys Ile Ile Glu Lys				
385		390		395
Ser Gly Tyr Gln Ala Leu Pro Trp Val Arg Tyr Ile Thr Gln Ser Gly				400
	405		410	415
Asp Tyr Gln Leu Arg Thr Ser				
420				

<210> 4911  
 <211> 1862  
 <212> DNA  
 <213> Homo sapiens

<400> 4911  
 tataagaaat aattgtgaca tttcatgcct ggaaatgtat cacgggggct ttcgttcata  
 60  
 ttgacactat atattactga atggatcagt taatatataa ccagttttaa ggacctgaaa  
 120  
 atgtagtgac agccaagaag gatattttga agtttgaaat gatccctata taaatagaac  
 180  
 ggatcagcat aactttggga taaaattagc cgacagtttg tggactctcc agcatgcgcc  
 240  
 tgtttgctcg gtgctgttct ctcgataaat cacaacaaag cttccagagg gagaggaagg  
 300  
 atggacggca ccactgcccc tgtcactaaa tctggagctg ccaagttagt taagagaaat  
 360  
 ttccttgagg cgctaaagtc caatgacttc ggaaaattga aggctatatt gatccaaagg  
 420  
 caaatagatg tggacactgt ttttgaagtc gaagatgaga atatggtttt ggcattttat  
 480  
 aaacaagggt actggttgcc tagctataaa ttgaagtctt cctgggccac aggcctccat  
 540  
 ctctctgtct tgtttgcca tgtggaatgt cttctggtgc tactggacca caatgctaca  
 600  
 atcaactgta gaccaaatgg gaaaaccct cttcacgtgg cttgtgaaat ggccaatgtg  
 660  
 gattgtgtta agatcctctg tgatcgtggg gcaaagctca attgctactc ctttaagtga  
 720  
 cacacagctt tgcacttttg tacaactcca agttccattc tctgtgcca gcaattggtt  
 780  
 tggagagtga cacaagtcaa ccacatgtta ggaaattccc tggatcaatga agtggaaacat  
 840  
 gtgacacaag tcaaccacat gttaggaaat tccctggtca atgaagtga acatggggcg  
 900  
 aatgtgaaca tgaagaccaa caaccaagat gaggagacgc ccttgccacac ggctgcccac  
 960  
 ttcggccttt cggagctggt ggccttctac gtggaacacg gggccatagt ggacagcgtg  
 1020  
 aatgccca tggagacccc cctggccatc gccgcctact gggccctccg ctttaaggag  
 1080  
 caggagtaca gcacggagca ccacctggtc tgccgcatgc tgcttgacta caaagccgaa  
 1140  
 gtcaatgcc gagatgacga ctttaaattc cccctccaca aggcagcctg gaactgtgac  
 1200

cacgtgctca tgcacatgat gctggaagct ggcgccgaag ccaatctcat ggatatcaac  
 1260  
 ggctgtgctg ccatccagta cgtgctgaag gtcacctccg tgcgcctgc tgcccagcct  
 1320  
 gagatctgct accagctcct gttgaacat ggggctgccc gaatataccc tccacagttc  
 1380  
 cataaggtga tacaggcctg ccattcttgt cctaaagcaa ttgaagttgt agtcaatgcc  
 1440  
 tatgaacaca tcagatggaa cacaaagtgg agaagagcta tccccgatga tgacttggag  
 1500  
 gtaaataatc gattcccttc taatagtttt cactatcaag tacttccaga ctgctctaga  
 1560  
 agtacagaaa attgtaacaa aaaagttggg ttgagaatg cctttaaagc gtactcaaat  
 1620  
 gcaatgagac aaagggttat aaaatgcagg ttgagagtt aatatttcca tcaaatatgt  
 1680  
 ggcattaagg agtgtcttgg ggaattcctc catttaaggg caagttgaat taagtatata  
 1740  
 aaggtggcag ttttcctttc ttctcattaa ttagatgag ttaaatagata acatttggaa  
 1800  
 ttgcttatat agcattttta ccagaatatt aaagcgtttt gtgtagatta tttcatttac  
 1860  
 tt  
 1862

<210> 4912

<211> 453

<212> PRT

<213> Homo sapiens

<400> 4912

Met	Asp	Gly	Thr	Thr	Ala	Pro	Val	Thr	Lys	Ser	Gly	Ala	Ala	Lys	Leu
1				5				10						15	
Val	Lys	Arg	Asn	Phe	Leu	Glu	Ala	Leu	Lys	Ser	Asn	Asp	Phe	Gly	Lys
		20						25					30		
Leu	Lys	Ala	Ile	Leu	Ile	Gln	Arg	Gln	Ile	Asp	Val	Asp	Thr	Val	Phe
		35				40						45			
Glu	Val	Glu	Asp	Glu	Asn	Met	Val	Leu	Ala	Ser	Tyr	Lys	Gln	Gly	Tyr
	50				55						60				
Trp	Leu	Pro	Ser	Tyr	Lys	Leu	Lys	Ser	Ser	Trp	Ala	Thr	Gly	Leu	His
65				70				75						80	
Leu	Ser	Val	Leu	Phe	Gly	His	Val	Glu	Cys	Leu	Leu	Val	Leu	Leu	Asp
			85					90						95	
His	Asn	Ala	Thr	Ile	Asn	Cys	Arg	Pro	Asn	Gly	Lys	Thr	Pro	Leu	His
		100						105					110		
Val	Ala	Cys	Glu	Met	Ala	Asn	Val	Asp	Cys	Val	Lys	Ile	Leu	Cys	Asp
		115					120					125			
Arg	Gly	Ala	Lys	Leu	Asn	Cys	Tyr	Ser	Leu	Ser	Gly	His	Thr	Ala	Leu
	130					135					140				
His	Phe	Cys	Thr	Thr	Pro	Ser	Ser	Ile	Leu	Cys	Ala	Lys	Gln	Leu	Val
145				150						155				160	
Trp	Arg	Val	Thr	Gln	Val	Asn	His	Met	Leu	Gly	Asn	Ser	Leu	Val	Asn
			165					170						175	
Glu	Val	Glu	His	Val	Thr	Gln	Val	Asn	His	Met	Leu	Gly	Asn	Ser	Leu

180 185 190  
 Val Asn Glu Val Glu His Gly Ala Asn Val Asn Met Lys Thr Asn Asn  
 195 200 205  
 Gln Asp Glu Glu Thr Pro Leu His Thr Ala Ala His Phe Gly Leu Ser  
 210 215 220  
 Glu Leu Val Ala Phe Tyr Val Glu His Gly Ala Ile Val Asp Ser Val  
 225 230 235 240  
 Asn Ala His Met Glu Thr Pro Leu Ala Ile Ala Ala Tyr Trp Ala Leu  
 245 250 255  
 Arg Phe Lys Glu Gln Glu Tyr Ser Thr Glu His His Leu Val Cys Arg  
 260 265 270  
 Met Leu Leu Asp Tyr Lys Ala Glu Val Asn Ala Arg Asp Asp Asp Phe  
 275 280 285  
 Lys Ser Pro Leu His Lys Ala Ala Trp Asn Cys Asp His Val Leu Met  
 290 295 300  
 His Met Met Leu Glu Ala Gly Ala Glu Ala Asn Leu Met Asp Ile Asn  
 305 310 315 320  
 Gly Cys Ala Ala Ile Gln Tyr Val Leu Lys Val Thr Ser Val Arg Pro  
 325 330 335  
 Ala Ala Gln Pro Glu Ile Cys Tyr Gln Leu Leu Leu Asn His Gly Ala  
 340 345 350  
 Ala Arg Ile Tyr Pro Pro Gln Phe His Lys Val Ile Gln Ala Cys His  
 355 360 365  
 Ser Cys Pro Lys Ala Ile Glu Val Val Val Asn Ala Tyr Glu His Ile  
 370 375 380  
 Arg Trp Asn Thr Lys Trp Arg Arg Ala Ile Pro Asp Asp Asp Leu Glu  
 385 390 395 400  
 Val Asn Asn Arg Phe Pro Ser Asn Ser Phe His Tyr Gln Val Leu Pro  
 405 410 415  
 Asp Cys Ser Arg Ser Thr Glu Asn Cys Asn Lys Lys Val Gly Phe Glu  
 420 425 430  
 Asn Ala Phe Lys Ala Tyr Ser Asn Ala Met Arg Gln Arg Val Ile Lys  
 435 440 445  
 Cys Arg Phe Glu Ser  
 450

&lt;210&gt; 4913

&lt;211&gt; 2090

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4913

gtgccaatat gcaaaagagg tggcccagat gcaggcccgc ccctgggagc ggccgaggtg  
 60  
 ggggggtgagg cctccgcggg cgccgctggc atcccagcgt tctctgcggg cgcagggggg  
 120  
 ccgctcttgc cggcgctggc gactcgctag cgtcagcagc gccgcagccg gacgagaaa  
 180  
 cggaagatgg cggcggcggc cgggaggccg tgaggagagc ggcggctgcg agggcgggcg  
 240  
 atggcggccg ggaggcgccc tcggacactt gcgggtcgtt agggcgcgac gctgggaggc  
 300  
 atgtcggagc acgtggagcc cgcagctccg gggcccgggc ccaacggcgg cggcggcggc  
 360

ccggcccccg cgcgcgggcc tcgcaccccc aatctcaacc ccaaccccct catcaacgtg  
420  
cgcgaccggc tcttccacgc gctgtttctt aagatggctg tcacctattc gcggctcttc  
480  
ccgcccgcct tccgcgctct cttcgagttc ttcgtgctgc tcaaggccct gtttgtgctc  
540  
ttcgtcctgg cctacatcca catcgtcttc tcccgtctgc ccatcaactg cctggagcat  
600  
gtgctgaca agtggccgcg tgagggcatc ctgctgtgg aagtgcggca caactcgagc  
660  
cgcgcgcccg tcttcttaca gttctgtgac agcggcgggc gcgggagctt cccgggcctg  
720  
gccgtggaac caggcagcaa cctggacatg gaagatgagg aggaggaaga gctgaccatg  
780  
gagatgtttg ggaacagctc catcaagttt gagctggaca tcgagcccaa ggtgttcaag  
840  
ccgccgagta gcacagaggc cctgaatgac agccaggagt tccccctccc cgagacgccc  
900  
accaaagtgt ggccgcagga cgagtacatc gtggagtact cactagagta tggcttcctt  
960  
cgctgtcgc aggccaccgc ccagcgctg agcatccccg tcatggtggt caccctggac  
1020  
cccacgcggg accagtgctt cggggaccgc ttcagccgcc tgctgctgga tgagttcctg  
1080  
ggtacgatg acatcctcat gtccagcgtg aagggcctgg ccgagaacga ggagaacaag  
1140  
ggcttcctgc ggaatgtggt gtcgggcgag cactaccgct ttgtgagcat gtggatggcg  
1200  
cggacgtcct acctggccgc cttcgccatc atggtcatct tcacgctgag cgtgtccatg  
1260  
ctgctgcggt actcacacca ccagatcttc gtcttcatcg tggacctgct gcagatgctg  
1320  
gagatgaaca tggccatcgc cttccccgca gcgcccctgc tgaccgtcat cctggccctc  
1380  
gtcgggatgg aggccatcat gtcggagttc ttcaacgaca ccaccaccgc cttctacatc  
1440  
atcctcatcg tgtggctcgc ggaccagtat gacgccatct gctgccacac cagcaccagc  
1500  
aagcggcatt ggctgcggtt cttctatctc taccacttcg cttctatgc ctatcactac  
1560  
cgcttcaatg ggcagtatag cagcctggcc ctggtcacct cctggctctt catccagcat  
1620  
tccatgatct acttcttcca ccactatgag ctgcctgcca tctgcagca ggtccgcatc  
1680  
caggagatgc tgcttcaggc gccgccactg ggccccggga ccccccacggc gctgcccgat  
1740  
gacatgaaca acaactcggg cgcgccggct acagcccctg actctgccgg ccagcccccc  
1800  
gccctgggcc ccgtgtttga gctggtcagc aaggagaggg ggtgggggtc cgcggaaggt  
1860  
tctggagggg tcttggtagg tctgcagtga accgtcctga ggatggagtg gggctccatg  
1920  
gtgcaggtct ctgagcaagg cggaggtgtg gaggagaggc cggcttgggg tggggcctcg  
1980

cgccctagtg cgggccggcc tcagcccggc tctgcctggt gtcacctgca gtgccttctc  
 2040  
 catggccccg cctccccgc gtgtgcgcca ggcttggggg ccccgaggaga  
 2090

<210> 4914  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 4914  
 Met Ser Glu His Val Glu Pro Ala Ala Pro Gly Pro Gly Pro Asn Gly  
 1 5 10 15  
 Gly Gly Gly Gly Pro Ala Pro Ala Arg Gly Pro Arg Thr Pro Asn Leu  
 20 25 30  
 Asn Pro Asn Pro Leu Ile Asn Val Arg Asp Arg Leu Phe His Ala Leu  
 35 40 45  
 Phe Phe Lys Met Ala Val Thr Tyr Ser Arg Leu Phe Pro Pro Ala Phe  
 50 55 60  
 Arg Arg Leu Phe Glu Phe Phe Val Leu Leu Lys Ala Leu Phe Val Leu  
 65 70 75 80  
 Phe Val Leu Ala Tyr Ile His Ile Val Phe Ser Arg Ser Pro Ile Asn  
 85 90 95  
 Cys Leu Glu His Val Arg Asp Lys Trp Pro Arg Glu Gly Ile Leu Arg  
 100 105 110  
 Val Glu Val Arg His Asn Ser Ser Arg Ala Pro Val Phe Leu Gln Phe  
 115 120 125  
 Cys Asp Ser Gly Gly Arg Gly Ser Phe Pro Gly Leu Ala Val Glu Pro  
 130 135 140  
 Gly Ser Asn Leu Asp Met Glu Asp Glu Glu Glu Glu Glu Leu Thr Met  
 145 150 155 160  
 Glu Met Phe Gly Asn Ser Ser Ile Lys Phe Glu Leu Asp Ile Glu Pro  
 165 170 175  
 Lys Val Phe Lys Pro Pro Ser Ser Thr Glu Ala Leu Asn Asp Ser Gln  
 180 185 190  
 Glu Phe Pro Phe Pro Glu Thr Pro Thr Lys Val Trp Pro Gln Asp Glu  
 195 200 205  
 Tyr Ile Val Glu Tyr Ser Leu Glu Tyr Gly Phe Leu Arg Leu Ser Gln  
 210 215 220  
 Ala Thr Arg Gln Arg Leu Ser Ile Pro Val Met Val Val Thr Leu Asp  
 225 230 235 240  
 Pro Thr Arg Asp Gln Cys Phe Gly Asp Arg Phe Ser Arg Leu Leu Leu  
 245 250 255  
 Asp Glu Phe Leu Gly Tyr Asp Asp Ile Leu Met Ser Ser Val Lys Gly  
 260 265 270  
 Leu Ala Glu Asn Glu Glu Asn Lys Gly Phe Leu Arg Asn Val Val Ser  
 275 280 285  
 Gly Glu His Tyr Arg Phe Val Ser Met Trp Met Ala Arg Thr Ser Tyr  
 290 295 300  
 Leu Ala Ala Phe Ala Ile Met Val Ile Phe Thr Leu Ser Val Ser Met  
 305 310 315 320  
 Leu Leu Arg Tyr Ser His His Gln Ile Phe Val Phe Ile Val Asp Leu  
 325 330 335  
 Leu Gln Met Leu Glu Met Asn Met Ala Ile Ala Phe Pro Ala Ala Pro



340 345 350  
 Leu Leu Thr Val Ile Leu Ala Leu Val Gly Met Glu Ala Ile Met Ser  
 355 360 365  
 Glu Phe Phe Asn Asp Thr Thr Thr Ala Phe Tyr Ile Ile Leu Ile Val  
 370 375 380  
 Trp Leu Ala Asp Gln Tyr Asp Ala Ile Cys Cys His Thr Ser Thr Ser  
 385 390 395 400  
 Lys Arg His Trp Leu Arg Phe Phe Tyr Leu Tyr His Phe Ala Phe Tyr  
 405 410 415  
 Ala Tyr His Tyr Arg Phe Asn Gly Gln Tyr Ser Ser Leu Ala Leu Val  
 420 425 430  
 Thr Ser Trp Leu Phe Ile Gln His Ser Met Ile Tyr Phe Phe His His  
 435 440 445  
 Tyr Glu Leu Pro Ala Ile Leu Gln Gln Val Arg Ile Gln Glu Met Leu  
 450 455 460  
 Leu Gln Ala Pro Pro Leu Gly Pro Gly Thr Pro Thr Ala Leu Pro Asp  
 465 470 475 480  
 Asp Met Asn Asn Asn Ser Gly Ala Pro Ala Thr Ala Pro Asp Ser Ala  
 485 490 495  
 Gly Gln Pro Pro Ala Leu Gly Pro Val Phe Glu Leu Val Ser Lys Glu  
 500 505 510  
 Arg Gly Trp Gly Ser Ala Glu Gly Ser Gly Gly Val Leu Val Gly Leu  
 515 520 525  
 Gln

&lt;210&gt; 4915

&lt;211&gt; 1157

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4915

gcacaggaag ctgctttatt cttgctgaga gacaggggct gctgcccaca cacagaccct  
 60  
 gtgtccaccc tgcagaaaag gccaggaggg cctgcagagc tgggaagcgc cacccaaggg  
 120  
 tctcagtcac caagactgca ggagaggcaa ggccatgtca ggccctggcag ctgtggctgg  
 180  
 ggccaggagg gagggaccag gcccatgtgg gaacaggaca aatgccaag gccacatcct  
 240  
 tcgtccacag tcctgaggct cctgccaggc tgacaggaaa cagcccagag ctgaggtcct  
 300  
 tgagccggtc attccaacat tgcaagcacc acccagtcct cctggctgaa gttgagtgag  
 360  
 gtaagaaggg cccgtggcca gggacagggg gggccctcag gaggtccca gggctgctgc  
 420  
 tgaggccggg cagcgtccta ggccctcaagg acactccttt ctccccctg cccaagcca  
 480  
 ccatggcagc agcatcaggg ctgtgccgcc tcatcccat ccctgtctgg gcagatgtga  
 540  
 agggtgaccg tctccccac tgtccgaag ttgacggtct ggggtgaaag ctctgtggtg  
 600  
 aagctgctct ggccactgtc cgcagaacgc cggatgcggg tgcagaaaga ctgcgtccag  
 660

ggagcactgc ccacaggccg agccggggcc tcccgaaga ggaaggaggt gccctcaagg  
 720  
 ctacggacct ggggtcccgg tggtagacgc ccacggggct caggcctaaa gaggccgaga  
 780  
 gggcctcggg gaccagtgac agccccacgc tgagcagcac aggctgcccc accgtgggct  
 840  
 ccccgatctc tctctggatc accgagacct cgcaggagg gtcatacagg gcgccaggcc  
 900  
 cagggccacc acagtggag gtctcccctt cccaggcac gtaatcttcc aggtcagcca  
 960  
 gtgtcagcat gcggccgttg tgcgtgagga tcttggggtc acgatcccca aggctgtgtg  
 1020  
 tgtcctggga ctctccgctc acaaagagag tctccgtctt cccctcttc ctagtccgcg  
 1080  
 ctctccatc gtgccctctt cctccaggct gcccatgcca gaacggagag agaactagtt  
 1140  
 ctctctctct ctctctc  
 1157

<210> 4916

<211> 59

<212> PRT

<213> Homo sapiens

<400> 4916

Met	Arg	Val	Gln	Lys	Asp	Cys	Val	Gln	Gly	Ala	Leu	Pro	Thr	Gly	Arg
1				5					10					15	
Ala	Gly	Ala	Ser	Arg	Lys	Arg	Lys	Glu	Val	Pro	Ser	Arg	Leu	Arg	Thr
			20					25					30		
Trp	Gly	Pro	Gly	Gly	Asp	Ala	Pro	Arg	Gly	Ser	Gly	Leu	Lys	Arg	Pro
		35					40					45			
Arg	Gly	Pro	Arg	Gly	Pro	Ser	Ala	Ala	Pro	Arg					
	50					55									

<210> 4917

<211> 1544

<212> DNA

<213> Homo sapiens

<400> 4917

cgaagcacct cctctctctg actttccgcc tcccgtgc gaccccggtt ttgcccctct  
 60  
 ccagctccct cagccgcggg cacctgagct ctccgcggcc accagggggc gccgcgggc  
 120  
 cagtctgggc gcgagagccg ccaagcgccc actccgttcc tctggtgcc ccgcccgtc  
 180  
 cgccgcggc cccgcccctc ccggcgcccc gcccggtccg gcagcggcct cgctccctcc  
 240  
 gatccccccc gcgcccggga cccctggccc cactgttggg ccagctcgcc gggtcgggc  
 300  
 atgggccccg ccgctcgccc cgcgtgaga tcgcgcgcgc cgcctccgcc gccgcctccg  
 360  
 tctccgtgc tgctgtgct gccctgctg ccgctgtggc tgggcctggc ggggcccggg  
 420

gccgcggcgg acggcagcga gccggcggcc ggggcggggc ggggcggagc ccgcgcgctg  
 480  
 cgggtggacg tgagactgcc gcgccaggac gctctggtcc tggagggcgt caggatcggc  
 540  
 tccgaagccg acccggcgcc cctgctgggc ggtcgtctgc tgctgatgga tgcgtggat  
 600  
 gctgagcagg aggcacccgc agatggctgg attgcagtgg catatgtggg caaggagcag  
 660  
 gcggcccagt tccaccagga gaataagggc agtggcccgc aggcctatcc caaggccctg  
 720  
 gtccagcaga tgcggcgggc cctcttcctg ggtgcctctg ccctgcttct tctcatcctg  
 780  
 aaccacaacg tgggtccgaga gctggacata tcccagcttc tgctcaggcc agtgatcgtc  
 840  
 ctccattatt cctccaatgt caccaagctg ttggatgcat tgctgcagag gacccaggcc  
 900  
 acggctgaga tcaccagcgg agagtccctg tctgccaata tcgagtggaa gttgaccttg  
 960  
 tggaccacct gtggcctctc caaggatggc tatggaggat ggcaggactt ggtctgcctt  
 1020  
 ggaggcagtc gtgcccagga gcagaaaccc ctgcagcagc tgtggaacgc catcctgctg  
 1080  
 gtggccatgc tcctgtgcac aggcctcgtg gtccaggccc agcggcaggc gtcgcggcag  
 1140  
 agccagcggg agctcggagg ccagggtggac ctgtttaagc gccgcgtggt gcggagactg  
 1200  
 gcatccctca agacacggcg ctgccggctg agcagggcag cgcagggcct cccagatccg  
 1260  
 ggtgctgaga cctgtgcggt gtgcctggac tacttctgca acaaacaggc tagtgccccg  
 1320  
 gtggctccgg gtgctgccct gtaagcacga gtttcaccga gactgtgtgg acccctggct  
 1380  
 gatgctccag cagacctgcc cactgtgcaa attcaacgtc ctgggtgagc accaggggtg  
 1440  
 gggtcctctg gectactctg cctgctcctc acctgatgcc tctctcctg ttcttcttcc  
 1500  
 cctccctgc agggaaaccg tactccgatg attagctgcc cagc  
 1544

<210> 4918

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4918

Met	Gly	Pro	Ala	Ala	Arg	Pro	Ala	Leu	Arg	Ser	Pro	Pro	Pro	Pro	Pro	Pro
1				5				10						15		
Pro	Pro	Pro	Pro	Ser	Pro	Leu	Leu	Leu	Leu	Leu	Pro	Leu	Leu	Pro	Leu	Leu
			20					25					30			
Trp	Leu	Gly	Leu	Ala	Gly	Pro	Gly	Ala	Ala	Ala	Asp	Gly	Ser	Glu	Pro	
		35					40					45				
Ala	Ala	Gly	Ala	Gly	Arg	Gly	Gly	Ala	Arg	Ala	Val	Arg	Val	Asp	Val	
	50					55					60					
Arg	Leu	Pro	Arg	Gln	Asp	Ala	Leu	Val	Leu	Glu	Gly	Val	Arg	Ile	Gly	

65                      70                      75                      80  
 Ser Glu Ala Asp Pro Ala Pro Leu Leu Gly Gly Arg Leu Leu Leu Met  
                                  85                      90                      95  
 Asp Val Val Asp Ala Glu Gln Glu Ala Pro Ala Asp Gly Trp Ile Ala  
                                  100                      105                      110  
 Val Ala Tyr Val Gly Lys Glu Gln Ala Ala Gln Phe His Gln Glu Asn  
                                  115                      120                      125  
 Lys Gly Ser Gly Pro Gln Ala Tyr Pro Lys Ala Leu Val Gln Gln Met  
                                  130                      135                      140  
 Arg Arg Ala Leu Phe Leu Gly Ala Ser Ala Leu Leu Leu Leu Ile Leu  
 145                                   150                      155                      160  
 Asn His Asn Val Val Arg Glu Leu Asp Ile Ser Gln Leu Leu Leu Arg  
                                  165                      170                      175  
 Pro Val Ile Val Leu His Tyr Ser Ser Asn Val Thr Lys Leu Leu Asp  
                                  180                      185                      190  
 Ala Leu Leu Gln Arg Thr Gln Ala Thr Ala Glu Ile Thr Ser Gly Glu  
                                  195                      200                      205  
 Ser Leu Ser Ala Asn Ile Glu Trp Lys Leu Thr Leu Trp Thr Thr Cys  
                                  210                      215                      220  
 Gly Leu Ser Lys Asp Gly Tyr Gly Gly Trp Gln Asp Leu Val Cys Leu  
 225                                   230                      235                      240  
 Gly Gly Ser Arg Ala Gln Glu Gln Lys Pro Leu Gln Gln Leu Trp Asn  
                                  245                      250                      255  
 Ala Ile Leu Leu Val Ala Met Leu Leu Cys Thr Gly Leu Val Val Gln  
                                  260                      265                      270  
 Ala Gln Arg Gln Ala Ser Arg Gln Ser Gln Arg Glu Leu Gly Gly Gln  
                                  275                      280                      285  
 Val Asp Leu Phe Lys Arg Arg Val Val Arg Arg Leu Ala Ser Leu Lys  
                                  290                      295                      300  
 Thr Arg Arg Cys Arg Leu Ser Arg Ala Ala Gln Gly Leu Pro Asp Pro  
 305                                   310                      315                      320  
 Gly Ala Glu Thr Cys Ala Val Cys Leu Asp Tyr Phe Cys Asn Lys Gln  
                                  325                      330                      335  
 Ala Ser Ala Pro Val Ala Pro Gly Ala Ala Leu  
                                  340                      345

&lt;210&gt; 4919

&lt;211&gt; 1362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4919

ncggaggcgg gcacttgggg ggaaagtga gacgtgatta ccgggttggg cgggccccat  
 60  
 ctgggagggg tttgtgggtg aactcggggt ccaccgcccg ctgaggagat ggatgaggac  
 120  
 gggcttcttc tcatgggggc aggcatagac ctgaccaagg tgccagctat tcaacagaaa  
 180  
 agaacggtgg cttttctaaa ccaatttggt gtgcacactg tacagttcct caaccgcttt  
 240  
 tctacagttt gtgaggagaa actggcagac ctttcacttc gtatccaaca aattgaaaca  
 300  
 actctcaata ttttagatgc aaagttgtca tctatcccag gcctagatga tgtcacagtt  
 360

gaagtatctc ctttaaatgt caccagtgtc acaaatggag cacatcctga agccacttca  
 420  
 gagcaaccac agcagaacag tacacaagac tctggactac aggaaagtga agtatcagca  
 480  
 gaaaatatct taactgtagc caaggatcca agatatgcca gatattctcaa aatgggtcaa  
 540  
 gtgggtgtac cagtgtggc aataagaaac aaaatgatat cagaaggact agaccagat  
 600  
 cttcttgaga ggccagatgc tccagtgcct gatggcgaaa gtgagaaaac tgtagaagaa  
 660  
 agttcagata gcgaatcttc ttttagtgat taagcttaat tttgataaga attacatatg  
 720  
 catgcatagg ggtacattta cattctgtaa gagattgagc ctgaactctc ttagtcataa  
 780  
 aaacatcaaa tggccacatg tccactacca agcttcttct atgttaaaaa aataataata  
 840  
 aagcagtttt aacctgcccc gtatgtcttg ttgctaaaat aanggccctc aaattgaaaa  
 900  
 ttnggatacc ctaaataaag taccaattag tgctccaaat actaagatag aatatttttag  
 960  
 agatgcaatg agcaattaca gtcaggcacg ggttgtcacg cctgtaatcc cagcactttg  
 1020  
 ggaggccgag gcgagtggat aacctgaggt caggagttca agaccagcct ggccaacatg  
 1080  
 gtgaaacctc catctctact aaaaatacaa aaagtagctg ggcgtggtga caaaaattag  
 1140  
 ctgggcgtag tggcaggtgc ctgtaatccc agctactcgg gaagctgagg caggagaatc  
 1200  
 acttgaaccc agaaggtaaa ggtttcagtg agctgagatt gcgtcattgc actccagcca  
 1260  
 tggcgacaag agtgaaactc tgtcttaaaa ataaaaagag atgcaatgag caattttaaa  
 1320  
 tgaagtcagt gtgagtttag tgatcaatag tagaccaat gc  
 1362

&lt;210&gt; 4920

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4920

Met	Asp	Glu	Asp	Gly	Leu	Pro	Leu	Met	Gly	Ser	Gly	Ile	Asp	Leu	Thr
1				5					10					15	
Lys	Val	Pro	Ala	Ile	Gln	Gln	Lys	Arg	Thr	Val	Ala	Phe	Leu	Asn	Gln
			20					25					30		
Phe	Val	Val	His	Thr	Val	Gln	Phe	Leu	Asn	Arg	Phe	Ser	Thr	Val	Cys
			35				40					45			
Glu	Glu	Lys	Leu	Ala	Asp	Leu	Ser	Leu	Arg	Ile	Gln	Gln	Ile	Glu	Thr
			50			55					60				
Thr	Leu	Asn	Ile	Leu	Asp	Ala	Lys	Leu	Ser	Ser	Ile	Pro	Gly	Leu	Asp
65					70					75				80	
Asp	Val	Thr	Val	Glu	Val	Ser	Pro	Leu	Asn	Val	Thr	Ser	Val	Thr	Asn
				85					90					95	
Gly	Ala	His	Pro	Glu	Ala	Thr	Ser	Glu	Gln	Pro	Gln	Gln	Asn	Ser	Thr

	100		105		110										
Gln	Asp	Ser	Gly	Leu	Gln	Glu	Ser	Glu	Val	Ser	Ala	Glu	Asn	Ile	Leu
	115				120			125							
Thr	Val	Ala	Lys	Asp	Pro	Arg	Tyr	Ala	Arg	Tyr	Leu	Lys	Met	Val	Gln
	130				135			140							
Val	Gly	Val	Pro	Val	Met	Ala	Ile	Arg	Asn	Lys	Met	Ile	Ser	Glu	Gly
145				150				155						160	
Leu	Asp	Pro	Asp	Leu	Leu	Glu	Arg	Pro	Asp	Ala	Pro	Val	Pro	Asp	Gly
			165					170						175	
Glu	Ser	Glu	Lys	Thr	Val	Glu	Glu	Ser	Ser	Asp	Ser	Glu	Ser	Ser	Phe
			180					185						190	
Ser	Asp														

&lt;210&gt; 4921

&lt;211&gt; 1272

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4921

```

nggttggtag cttctatcct gggggctgag cgactgcggg ccagctcttc ccctactccc
60
tctcggctcc ttgtggccca aaggccctaa ccgggggtccg gcggtctgtg ccctagggta
120
tcttccccgt tgcccccttg gggcgggatg gctgcggaag aagaagacga ggtggagtgg
180
gtagtggaga gcatcgcggg gctcctgcga ggcccagact ggtccatccc catcttggac
240
tttgtggaac agaaatgtga agtttttgat gatgaagaag aaagcaaatt gacctatata
300
gagattcatc aggaatacaa agaactagtt gaaaagctgt tagaagggtta cctcaaagaa
360
attggaatta atgaagatca atttcaagaa gcatgcactt ctctcttgc aaagacccat
420
acatcacagg ccattttgca acctgtgttg gcagcagaag attttactat ctttaaagca
480
atgatgggtcc agaaaaacat tgaaatgcag ctgcaagcca ttcgaataat tcaagagaga
540
aatggtgtat tacctgactg cttaaccgat ggctctgatg tggtcagtga ccttgaacac
600
gaagagatga aaatcctgag ggaagttctt agaaaatcaa aagaggaata tgaccaggaa
660
gaagaaagga agaggaaaaa acagttatca gaggctaaaa cagaagagcc cacagtgcac
720
tccagtgaag ctgcaataat gaataattcc caaggggatg gtgaacattt tgcacaccca
780
ccctcagaag ttaaaatgca ttttgctaag cagtcaatag aacctttggg aagaaaagtg
840
gaaagggtctg aaacttcctc cctcccacaa aaaggcctga agattcctgg cttagagcat
900
gcgagcattg aaggaccaat agcaaactta tcagtacttg gaacagaaga acttcggcaa
960
cgagaacact atctcaagca gaagagagat aagttgatgt ccatgagaaa ggatatgagg
1020

```

actaaacaga tacaaaatat ggagcagaaa ggaaaaccca ctggggaggt agaggaaatg  
 1080  
 acagagaaac cagaaatgac agcagaggag aagcaaacat tactaaagag gagattgctt  
 1140  
 gcagagaaac tcaaagaaga agttattaat aagtaataat taagaacaat ttaacaaaat  
 1200  
 ggaagttcaa attgtcttaa aaataaatta tttagtcctt acactgaaaa aaaaaaaaaa  
 1260  
 aaaaaataaa aa  
 1272

<210> 4922

<211> 342

<212> PRT

<213> Homo sapiens

<400> 4922

Met	Ala	Ala	Glu	Glu	Glu	Asp	Glu	Val	Glu	Trp	Val	Val	Glu	Ser	Ile
1				5					10					15	
Ala	Gly	Leu	Leu	Arg	Gly	Pro	Asp	Trp	Ser	Ile	Pro	Ile	Leu	Asp	Phe
		20						25					30		
Val	Glu	Gln	Lys	Cys	Glu	Val	Phe	Asp	Asp	Glu	Glu	Glu	Ser	Lys	Leu
	35						40					45			
Thr	Tyr	Thr	Glu	Ile	His	Gln	Glu	Tyr	Lys	Glu	Leu	Val	Glu	Lys	Leu
	50				55					60					
Leu	Glu	Gly	Tyr	Leu	Lys	Glu	Ile	Gly	Ile	Asn	Glu	Asp	Gln	Phe	Gln
65				70					75					80	
Glu	Ala	Cys	Thr	Ser	Pro	Leu	Ala	Lys	Thr	His	Thr	Ser	Gln	Ala	Ile
			85						90				95		
Leu	Gln	Pro	Val	Leu	Ala	Ala	Glu	Asp	Phe	Thr	Ile	Phe	Lys	Ala	Met
		100					105						110		
Met	Val	Gln	Lys	Asn	Ile	Glu	Met	Gln	Leu	Gln	Ala	Ile	Arg	Ile	Ile
	115					120					125				
Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr	Asp	Gly	Ser	Asp
	130					135					140				
Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys	Ile	Leu	Arg	Glu	Val
145				150					155					160	
Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln	Glu	Glu	Glu	Arg	Lys	Arg
			165					170					175		
Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr	Glu	Glu	Pro	Thr	Val	His	Ser
		180						185					190		
Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn	Ser	Gln	Gly	Asp	Gly	Glu	His	Phe
	195					200						205			
Ala	His	Pro	Pro	Ser	Glu	Val	Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile
	210					215					220				
Glu	Pro	Leu	Gly	Arg	Lys	Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro
225				230						235				240	
Gln	Lys	Gly	Leu	Lys	Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly
			245					250					255		
Pro	Ile	Ala	Asn	Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg
		260					265						270		
Glu	His	Tyr	Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys
	275					280						285			
Asp	Met	Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro

290                      295                      300  
 Thr Gly Glu Val Glu Glu Met Thr Glu Lys Pro Glu Met Thr Ala Glu  
 305                      310                      315                      320  
 Glu Lys Gln Thr Leu Leu Lys Arg Arg Leu Leu Ala Glu Lys Leu Lys  
                     325                      330                      335  
 Glu Glu Val Ile Asn Lys  
                     340

<210> 4923  
 <211> 765  
 <212> DNA  
 <213> Homo sapiens

<400> 4923  
 tctccagccc cggatgaggg gcctcagget tcggctgggc cacaggaggt ggggtctctg  
 60  
 aagccttctg ctctnctcc aaggacctca tttagctccg ccagcaggtc atcatcagcc  
 120  
 tccaagtcgt cctcatccgt cccctcctcc tcctcctcat ccgggtctct catgcacagg  
 180  
 ctggccatct tctcaatggc ctccatcggc aaggacatt tgcctttgag cttctccagg  
 240  
 gctggggggt ggccccgac caaagccaag aactcagcct ccagttcttc atcgtagcc  
 300  
 ccgtcctcag ggatcatcag gccatctggg gagaggtcaa ccagcaggcc cagctggcgg  
 360  
 gcggccgcgg cgcctctgcc cgggggtccc gggggtcctt cctcttgatc atcttcaagg  
 420  
 ctggatgccc ggaccacctg cccccaagcc cggccttgcc ctgccccttc cccgggtctt  
 480  
 gtgcgcgcgc actcgcctt cctgagtcct gactcctcg tcggcgccct gcggcgggtc  
 540  
 gateccgagc cctcgcttcc ctgcttgccc gtcccacttc cgcctcgggc ctggggcgcc  
 600  
 gccgcacctn ggagcgcggc cagctggggt cggcgagggt tgccgagccg aaactacaac  
 660  
 tccgggcaga tttctcaagg ggaagataaa atgactaaga ggaagaagct gcggacctca  
 720  
 gteccctga tgaggaaaca ggatctccct gccggctcct ccgtc  
 765

<210> 4924  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 4924  
 Ser Pro Ala Pro Asp Glu Gly Pro Gln Ala Ser Ala Gly Pro Gln Glu  
 1                      5                      10                      15  
 Val Gly Ser Leu Lys Pro Ser Ala Pro Xaa Pro Arg Thr Ser Phe Ser  
                     20                      25                      30  
 Ser Ala Ser Arg Ser Ser Ser Ala Ser Lys Ser Ser Ser Val Pro  
                     35                      40                      45  
 Ser Ser Ser Ser Ser Ser Gly Ser Leu Met His Arg Leu Ala Ile Phe



50	55	60
Ser Met Ala Ser Ile Gly Lys Gly Pro Leu Pro Leu Ser Phe Ser Arg		
65	70	75
Ala Gly Gly Trp Pro Pro Thr Lys Ala Lys Asn Ser Ala Ser Ser Ser		80
	85	90
Ser Ser Leu Ala Pro Ser Ser Gly Ile Ile Arg Pro Ser Gly Glu Arg		95
	100	105
Ser Thr Ser Arg Pro Ser Trp Arg Ala Ala Ala Ala Pro Leu Pro Gly		110
	115	120
Gly Pro Gly Gly Pro Ser Ser Cys Ala Ser Ser Arg Leu Asp Ala Arg		125
	130	135
Thr Thr Cys Pro Gln Ala Arg Pro Cys Pro Ala Pro Ser Pro Gly Ser		140
145	150	155
Val Ala Ala His Ser Pro Phe Leu Ser Pro Ala Leu Leu Val Gly Ala		160
	165	170
Leu Arg Pro Val Asp Pro Glu Pro Ser Leu Pro Cys Leu Ala Val Pro		175
	180	185
Leu Pro Pro Arg Ala Ser Gly Ala Ala Ala Pro Xaa Ser Ala Ala Ser		190
	195	200
Trp Ala Arg Arg Gly Leu Pro Ser Arg Asn Tyr Asn Ser Arg Gln Ile		205
	210	215
Ser Gln Gly Glu Asp Lys Met Thr Lys Arg Lys Lys Leu Arg Thr Ser		220
225	230	235
Ala Pro Leu Met Arg Lys Gln Asp Leu Pro Ala Gly Ser Ser Val		240
	245	250
		255

&lt;210&gt; 4925

&lt;211&gt; 374

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4925

gccaatTTgg agaaagagct ccaggagatg gaggcacggt acgagaagga gtttggagat  
60

ggatcggatg aaaatgaaat ggaagaacat gaactcaaag atgaggagga tggtaaagac  
120

agtgatgagg ccgaggacgc tgagctctat gatgaccttt actgccacgc atgtgacaaa  
180

tcgttcaaga cagaaaaggc catgaagaat cacgagaagt caaagaagca tcgggaaatg  
240

gtggccttgc taaaacaaca gctggaggag gaagaagaaa atttttcaag acctcaaatt  
300

gatgaaaatc cattagatga caattctgag gaagaaatgg aagatgcacc aaaacaaaag  
360

ctttctaaaa aaaa

374

&lt;210&gt; 4926

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4926

Ala Asn Leu Glu Lys Glu Leu Gln Glu Met Glu Ala Arg Tyr Glu Lys

1		5		10		15									
Glu	Phe	Gly	Asp	Gly	Ser	Asp	Glu	Asn	Glu	Met	Glu	Glu	His	Glu	Leu
		20				25						30			
Lys	Asp	Glu	Asp	Gly	Lys	Asp	Ser	Asp	Glu	Ala	Glu	Asp	Ala	Glu	
		35				40						45			
Leu	Tyr	Asp	Asp	Leu	Tyr	Cys	Pro	Ala	Cys	Asp	Lys	Ser	Phe	Lys	Thr
	50				55						60				
Glu	Lys	Ala	Met	Lys	Asn	His	Glu	Lys	Ser	Lys	Lys	His	Arg	Glu	Met
65					70					75				80	
Val	Ala	Leu	Leu	Lys	Gln	Gln	Leu	Glu	Glu	Glu	Glu	Glu	Asn	Phe	Ser
				85					90				95		
Arg	Pro	Gln	Ile	Asp	Glu	Asn	Pro	Leu	Asp	Asp	Asn	Ser	Glu	Glu	Glu
		100						105					110		
Met	Glu	Asp	Ala	Pro	Lys	Gln	Lys	Leu	Ser	Lys	Lys				
		115						120							

&lt;210&gt; 4927

&lt;211&gt; 1649

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4927

atccaccgct gagctgggag aaagatggcg gccgtgcgac aggatttggc ccagctcatg  
60  
aattcgagcg gctctcataa agatctggct ggcaagtatc gtcagatcct ggaaaaagcc  
120  
attcagttat ctggagcaga acaactagaa gctttgaaag cttttgtgga agcaatggta  
180  
aatgagaatg tcagtctcgt gatctcgcg cagttgctga ctgatttttg cacacatctt  
240  
cctaacttgc ctgatagcac agccaaagaa atctatcact tcaccttgga aaagatccag  
300  
cttagagtca tttcatttga ggagcagggt gcttcataa gacagcatct tgcattctata  
360  
tatgagaaag aagaagattg gagaaatgca gcccaagtgt tgggtgggaat tcctttggaa  
420  
acaggacaaa aacagtacaa tgtagattat aaactggaga cttacttgaa gattgctagg  
480  
ctatatctgg aggatgatga tccagtccag gcagaggctt acataaatcg agcatcggtg  
540  
cttcagaatg aatcaaccaa tgaacaatta cagatacatt ataaggatat ctatgcacgt  
600  
gttcttgatt atagaagaaa attcattgaa gctgcacaaa ggtacaatga gctctcttac  
660  
aagacaatag tccacgaaag tgaaagacta gaggccttaa aacatgcttt gcactgtacg  
720  
atcttagcat cagcaggaca gcagcggtct cggatgctgg ctaccctttt taaggatgaa  
780  
aggtgccagc aacttgctgc ttatgggatc ctagagaaaa tgtatctaga caggatcatc  
840  
agagggaaacc agcttcaaga atttgctgcc atgctgatgc ctcacccaaa agcaactaca  
900  
gctgatgggt ccagcatctt ggacagagct gttattgaac acaatttggt gtctgcaagc  
960

aaattatata ataatattac cttcgaagaa cttggagctc ttttagagat ccctgcagct  
 1020  
 aaggcggaaa agatagcatc tcaaagata accgaaggac gtatgaatgg atttattgac  
 1080  
 cagattgatg gaatagttca ttttgaaaca cgagaagccc tgccaacgtg ggataagcag  
 1140  
 atccaatcac tttgtttcca agtgaataac cttttggaga aaattagtca aacagcacca  
 1200  
 gaatggacag cacaagccat ggaagcccag atggctcagt gaatccttgc agaacttctg  
 1260  
 tgcacatgac atctttttcc atgttgtgca gatcagtttc actatctcca aagcatttgc  
 1320  
 atcatgacct tatacatttc aatccctttt atgctggatt ccgtttaaag aagacattat  
 1380  
 tagagcagga agtacaagca tttaaaatat gtagttccca tatatttcag ggtctctgtg  
 1440  
 tattaagcta actcagatgt tttgaaagct ttttctttaa acagaggtga aatatctgtg  
 1500  
 gctaaaaagt ttgagatttg tgataacttt gtagtcatgt aaaacttaag tgcttcatgc  
 1560  
 ctctccaaat gtggttattc taataaatgg agaaatgagc caaaaaaag tagtactttg  
 1620  
 tttttaaaaa aaaaaaaaaa aaaaaaaaaa  
 1649

&lt;210&gt; 4928

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4928

Met	Ala	Ala	Val	Arg	Gln	Asp	Leu	Ala	Gln	Leu	Met	Asn	Ser	Ser	Gly
1				5					10					15	
Ser	His	Lys	Asp	Leu	Ala	Gly	Lys	Tyr	Arg	Gln	Ile	Leu	Glu	Lys	Ala
			20					25					30		
Ile	Gln	Leu	Ser	Gly	Ala	Glu	Gln	Leu	Glu	Ala	Leu	Lys	Ala	Phe	Val
		35				40						45			
Glu	Ala	Met	Val	Asn	Glu	Asn	Val	Ser	Leu	Val	Ile	Ser	Arg	Gln	Leu
	50				55						60				
Leu	Thr	Asp	Phe	Cys	Thr	His	Leu	Pro	Asn	Leu	Pro	Asp	Ser	Thr	Ala
65				70					75					80	
Lys	Glu	Ile	Tyr	His	Phe	Thr	Leu	Glu	Lys	Ile	Gln	Pro	Arg	Val	Ile
			85						90					95	
Ser	Phe	Glu	Glu	Gln	Val	Ala	Ser	Ile	Arg	Gln	His	Leu	Ala	Ser	Ile
			100					105					110		
Tyr	Glu	Lys	Glu	Glu	Asp	Trp	Arg	Asn	Ala	Ala	Gln	Val	Leu	Val	Gly
		115				120						125			
Ile	Pro	Leu	Glu	Thr	Gly	Gln	Lys	Gln	Tyr	Asn	Val	Asp	Tyr	Lys	Leu
	130				135						140				
Glu	Thr	Tyr	Leu	Lys	Ile	Ala	Arg	Leu	Tyr	Leu	Glu	Asp	Asp	Asp	Pro
145				150					155					160	
Val	Gln	Ala	Glu	Ala	Tyr	Ile	Asn	Arg	Ala	Ser	Leu	Leu	Gln	Asn	Glu
			165					170					175		
Ser	Thr	Asn	Glu	Gln	Leu	Gln	Ile	His	Tyr	Lys	Val	Cys	Tyr	Ala	Arg

180 185 190  
 Val Leu Asp Tyr Arg Arg Lys Phe Ile Glu Ala Ala Gln Arg Tyr Asn  
 195 200 205  
 Glu Leu Ser Tyr Lys Thr Ile Val His Glu Ser Glu Arg Leu Glu Ala  
 210 215 220  
 Leu Lys His Ala Leu His Cys Thr Ile Leu Ala Ser Ala Gly Gln Gln  
 225 230 235 240  
 Arg Ser Arg Met Leu Ala Thr Leu Phe Lys Asp Glu Arg Cys Gln Gln  
 245 250 255  
 Leu Ala Ala Tyr Gly Ile Leu Glu Lys Met Tyr Leu Asp Arg Ile Ile  
 260 265 270  
 Arg Gly Asn Gln Leu Gln Glu Phe Ala Ala Met Leu Met Pro His Gln  
 275 280 285  
 Lys Ala Thr Thr Ala Asp Gly Ser Ser Ile Leu Asp Arg Ala Val Ile  
 290 295 300  
 Glu His Asn Leu Leu Ser Ala Ser Lys Leu Tyr Asn Asn Ile Thr Phe  
 305 310 315 320  
 Glu Glu Leu Gly Ala Leu Leu Glu Ile Pro Ala Ala Lys Ala Glu Lys  
 325 330 335  
 Ile Ala Ser Gln Met Ile Thr Glu Gly Arg Met Asn Gly Phe Ile Asp  
 340 345 350  
 Gln Ile Asp Gly Ile Val His Phe Glu Thr Arg Glu Ala Leu Pro Thr  
 355 360 365  
 Trp Asp Lys Gln Ile Gln Ser Leu Cys Phe Gln Val Asn Asn Leu Leu  
 370 375 380  
 Glu Lys Ile Ser Gln Thr Ala Pro Glu Trp Thr Ala Gln Ala Met Glu  
 385 390 395 400  
 Ala Gln Met Ala Gln  
 405

&lt;210&gt; 4929

&lt;211&gt; 5907

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4929

ntaatcgcg ggcgtttggc gccatcttta gatggcggga gtaagaggaa aacgattgtg  
 60  
 aggcgggaac ggctttctgc tgcctttttt gggcccgaa aagggtcagc tggccgggct  
 120  
 ttggggcgcg tgccctgagg cgcgagcgcg gtttgctacg atgcgggggc tgctcggggc  
 180  
 tccgtcccct gggctgggga cgcgccgaat gtgaccgcct cccgctccct caccgcgcg  
 240  
 ggggaggagg agcgggagag aagctgccgc cgaacgacag gacgttgggg cggcctgggt  
 300  
 cctcaggta taagtattgt ttaagctgca tcaatggagc acatacaggg agcttggaag  
 360  
 acgatcagca atggttttgg attcaaagat gccgtgtttg atggctccag ctgcatctct  
 420  
 cctacaatag ttcagcagtt tggctatcag cgccgggcat cagatgatgg caaactcaca  
 480  
 gatccttcta agacaagcaa cactatccgt gttttcttgc cgaacaagca aagaacagtg  
 540

gtcaatgtgc gaaatggaat gagcttgcac gactgcctta tgaaagcact caaggtgagg  
600  
ggcctgcaac cagagtgtctg tgcagtgttc agacttctcc acgaacacaa aggtaaaaaa  
660  
gcacgcttag attggaatac tgatgtctgcg tctttgattg gagaagaact tcaagtagat  
720  
ttcctggatc atgttccccct cacaacacac aactttgctc ggaagacgtt cctgaagctt  
780  
gccttctgtg acatctgtca gaaattcctg ctcaatggat ttcgatgtca gacttgtggc  
840  
tacaaatttc atgagcactg tagcaccaaa gtacctacta tgtgtgtgga ctggagtaac  
900  
atcagacaac tcttattgtt tccaaattcc actattgggtg atagtggagt cccagcacta  
960  
ccttctttga ctatgcgtcg tatgcgagag tctgtttcca ggatgcctgt tagttctcag  
1020  
cacagatatt ctacacctca cgccttcacc tttaacacct ccagtccctc atctgaaggt  
1080  
tccctctccc agaggcagag gtgcacatcc acacctaatg tccacatggt cagcaccacc  
1140  
ctgcctgtgg acagcaggat gattgaggat gcaattcgaa gtcacagcga atcagcctca  
1200  
ccttcagccc tgtccagtag cccaacaat ctgagcccaa caggctgggtc acagccgaaa  
1260  
acccccgtgc cagcacaaaag agagcgggca ccagtatctg ggaccagga gaaaaacaaa  
1320  
attaggccctc gtggacagag agattcaagc tattattggg aaatagaagc cagtgaagtg  
1380  
atgctgtcca ctcggtattg gtcaggctct tttggaactg tttataaggg taaatggcac  
1440  
ggagatgttg cagtaaagat cctaaagggt gtcgacccaa cccagagca attccaggcc  
1500  
ttcaggaatg aggtggctgt tctgcgcaaa acacggcatg tgaacattct gcttttcatg  
1560  
gggtacatga caaaggacaa cctggcaatt gtgaccaggt ggtgcgaggg cagcagcctc  
1620  
tacaaacacc tgcattgtcca ggagaccaag tttcagatgt tccagctaatt tgacattgcc  
1680  
cggcagacgg ctcaggggaat ggactatttg catgcaaaga acatcatcca tagagacatg  
1740  
aaatccaaca atatatttct ccatgaaggc ttaacagtga aaattggaga ttttggtttg  
1800  
gcaacagtaa agtcacgctg gagtggttct cagcagggtg aacaacctac tggctctgtc  
1860  
ctctggatgg cccagagggt gatccgaatg caggataaca acccattcag tttccagtcg  
1920  
gatgtctact cctatggcat cgtattgtat gaactgatga cgggggagct tccttattct  
1980  
cacatcaaca accgagatca gatcatcttc atggtgggccc gaggatatgc ctccccagat  
2040  
cttagtaagc tatataagaa ctgccccaaa gcaatgaaga ggctggtagc tgactgtgtg  
2100  
aagaaagtaa aggaagagag gcctcttttt cccagatcc tgtcttccat tgagctgtc  
2160

caacactctc taccgaagat caaccggagc gcttccgagc catccttgca tcgggcagcc  
2220  
cacactgagg atatcaatgc ttgcacgctg accacgtccc cgaggctgcc tgtcttctag  
2280  
ttgactttgc acctgtcttc aggctgccag gggaggagga gaagccagca ggcaccactt  
2340  
ttctgctccc tttctccaga ggcagaacac atgttttcag agaagctgct gctaaggacc  
2400  
ttctagactg ctcacagggc cttaacttca tgttgccctc ttttctatcc ctttggggcc  
2460  
ctgggagaag gaagccattt gcagtgtggt tgtgtcctgc tccctcccca cattcccat  
2520  
gctcaaggcc cagccttctg tagatgcgca agtggatgtt gatggtagta caaaaagcag  
2580  
gggccagcc ccagctgttg gctacatgag tatttagagg aagtaaggta gcaggcagtc  
2640  
cagccctgat gtggagacac atgggatttt ggaaatcagc ttctggagga atgcatgtca  
2700  
caggcgggac tttcttcaga gagtgggtgca ggcagaca ttttgacat aaggcaccaa  
2760  
acagcccagg actgccgaga ctctggccgc ccgaaggagc ctgctttggt actatggaac  
2820  
ttttcttagg ggacacgtcc tcctttcaca gcttctaagg tgtccagtgc attgggatgg  
2880  
ttttccaggc aaggcactcg gccaatccgc atctcagccc tctcaggag cagtcttcca  
2940  
tcatgtgaa ttttgtcttc caggagctgc ccctatgggg cggggccgca gggccagcct  
3000  
tgtttctcta caaacaaca aacaaacagc cttgtttctc taacaacaa gggccagcct  
3060  
tgtttctcta acaacaac aaacaacag ccttgtttct ctagtcacat catgtgtata  
3120  
caaggaagcc aggaatacag gttttcttga tgatttgggt ttttaatttg tttttattgc  
3180  
acctgacaaa atacagttat ctgatgttcc ctcaattatg ttattttaat aaaataaatt  
3240  
aaatttaggt gtaatggctg gctgttacct ccttttaaag taattctgag ctcacaactt  
3300  
gaatgcccc tttgttcacc ctcttcagga gcagaattca agaacaggaa atgtgcccag  
3360  
agcctaggct gggaatgaat ttgtaattta acccttgtac tctttgtaa cctctactga  
3420  
agagttaagt ataaaaatta attaaagcaga aagtactcta aactcagcta ataccttaag  
3480  
taatacattt tataaactat ttatttat ttgtaggtaca gcttttttaa acacaaaaat  
3540  
agattagata aattccagct tggaacaagc tagtgctggt tcacaagggt gtgctcaccc  
3600  
ttcaattaaa atcaaatga ctacaagact tgccatcagc tctcttcagg accactgctg  
3660  
ggtcagaatc agaaaccttg ggtgccatga aatttttaca aaatttcaaa tcaaagccag  
3720  
gctttgcagc tagataatag atcacttgag tacgaaccac acatgtaagt gcacgtatat  
3780

ttgagttctc aatacaatta ccctgatggg caagaaccca caggtgagag cagaggcttg  
3840  
gttcccctag agggccctgg ctggaggccc caacaccaac cagacgacag gagggccaga  
3900  
ctgctacca gtactgtacc tctgtctct tcaagagcct ccctaaggga gaagaagatc  
3960  
tatacttcca ctttgtttgc tgcacatgtg gcaacaagat tgctaccctg atttgggaca  
4020  
cttgagagaa cttgaaaaaa atgaccaccc ttaaagccct agaaaaaagt tgtatgtttg  
4080  
ttaaccagct aatctgcgct cacttggcat tgtgtgttct tgaaagctct gtataaatca  
4140  
aaattttgac gacacactaa atacactaga gaaatacact atagaggaat ccttttatag  
4200  
ggctgaagac tcctttggta agaaaaatat gctgcattag gggcagctgc aagtttacta  
4260  
tttctgggga agaaaagatc aaagataaga gccaggtttg ttttttaaag caatcaatcc  
4320  
aaacagtttg ggtgtttgtt agttgttacc cctgaggggc ttgaggtgta actatatcag  
4380  
ctataaaaaat agcaattcca tacatttaat taggttactt tatactcttc actcttcccc  
4440  
atggctgtaa taatggagat tgaatgagac taaggctaag cccaactcca ctcaaatcca  
4500  
agtcacacgt caccttggct gcagtacagg gaagctccgc acaccctggc ttgggaaagt  
4560  
ttcgcccgat ggagcccaag atgcagggca accatctact ctttaggggt ctgatgattc  
4620  
cactccagaa aggtgcatga agaggteccc gagctctgtc atgtcgacat cttcattgtt  
4680  
ggggacatgc eggctttctc ggttctcgat gaaatcccag agccgcactg aattaaagaa  
4740  
cctcacagtg ccttgagaac tgagctgttt ccgaggtttc tcaggctctg ctagccgccc  
4800  
atcggggtaa gcatggcgat aaagacattt gttccaaat gggcaggtcc cttgccttg  
4860  
ctcaaagtat ttacaggctt ttttccccat cccctgtttg aaagcttcaa tcaactcggt  
4920  
ctttttatct tgatcttcca cccaatacac acttgaatt acaaactctg atatcacacg  
4980  
gcattctgga caagacttaa tgattgggtt ttcaaactgt ttggcacacc gccactgccc  
5040  
gatgcaggac aaacagtacg tgtgattgca attggagaga atcccaaatc tcctctcaga  
5100  
agcagaggcc ttctccagga tcacttccat gcagatactg cacactttgt cctggcttgc  
5160  
ctggaaggca aaggcctttt ccatctcgtg ttcgaacgtc aacatgcaga tcttttcatg  
5220  
agccttctc tgctctgggt cgaatgggtg caagacttgc agcctacaga tttcacacac  
5280  
ctccccgtgc aggtagacac aggcaccccc aaaccggcac tccccagcag ctgctagggg  
5340  
gcacagctgc tgctcgttgc tgtaggagct gctggcctcc acgtcatcaa ggccactcct  
5400

gatggcatcc aggttaggaat gcggcttcat ctcggggctg ggctgggggt cgctgcagct  
 5460  
 gcctggatta ctcacatgc tcggctgggt cttcctttca gccatgccag agagatttcg  
 5520  
 gtctctaaga accaatgttc tcttttcacg ctttcgggt tcatgtgagt tagttttcac  
 5580  
 aatggatgca gtgacctcgg aaggaggggtg aggactgtgg aaagctgggg agggcacact  
 5640  
 gtggggccatg gtgcccacag cacctccagc tgcagcagag ggctcgtgt ggtcatatct  
 5700  
 gcaccgagtt ccataggcac agtagccctt ctggtagtac ttgcagatgg tggacggttt  
 5760  
 gctgtttgcc aagtcatgtg agaataggca ctgacttcct tcccacaca caccatgcat  
 5820  
 aaaatacctg caagtgatct gcttggtgct catggtggct gggctgaggg accgtcgtcg.  
 5880  
 tgccgcccgc tctgcagcc gctgccc  
 5907

<210> 4930

<211> 648

<212> PRT

<213> Homo sapiens

<400> 4930

Met	Glu	His	Ile	Gln	Gly	Ala	Trp	Lys	Thr	Ile	Ser	Asn	Gly	Phe	Gly
1				5					10					15	
Phe	Lys	Asp	Ala	Val	Phe	Asp	Gly	Ser	Ser	Cys	Ile	Ser	Pro	Thr	Ile
			20					25					30		
Val	Gln	Gln	Phe	Gly	Tyr	Gln	Arg	Arg	Ala	Ser	Asp	Asp	Gly	Lys	Leu
			35				40					45			
Thr	Asp	Pro	Ser	Lys	Thr	Ser	Asn	Thr	Ile	Arg	Val	Phe	Leu	Pro	Asn
			50				55				60				
Lys	Gln	Arg	Thr	Val	Val	Asn	Val	Arg	Asn	Gly	Met	Ser	Leu	His	Asp
65				70					75					80	
Cys	Leu	Met	Lys	Ala	Leu	Lys	Val	Arg	Gly	Leu	Gln	Pro	Glu	Cys	Cys
			85					90						95	
Ala	Val	Phe	Arg	Leu	Leu	His	Glu	His	Lys	Gly	Lys	Lys	Ala	Arg	Leu
			100					105					110		
Asp	Trp	Asn	Thr	Asp	Ala	Ala	Ser	Leu	Ile	Gly	Glu	Glu	Leu	Gln	Val
			115				120					125			
Asp	Phe	Leu	Asp	His	Val	Pro	Leu	Thr	Thr	His	Asn	Phe	Ala	Arg	Lys
			130				135				140				
Thr	Phe	Leu	Lys	Leu	Ala	Phe	Cys	Asp	Ile	Cys	Gln	Lys	Phe	Leu	Leu
145				150					155					160	
Asn	Gly	Phe	Arg	Cys	Gln	Thr	Cys	Gly	Tyr	Lys	Phe	His	Glu	His	Cys
			165					170					175		
Ser	Thr	Lys	Val	Pro	Thr	Met	Cys	Val	Asp	Trp	Ser	Asn	Ile	Arg	Gln
			180					185					190		
Leu	Leu	Leu	Phe	Pro	Asn	Ser	Thr	Ile	Gly	Asp	Ser	Gly	Val	Pro	Ala
			195				200					205			
Leu	Pro	Ser	Leu	Thr	Met	Arg	Arg	Met	Arg	Glu	Ser	Val	Ser	Arg	Met
			210				215					220			
Pro	Val	Ser	Ser	Gln	His	Arg	Tyr	Ser	Thr	Pro	His	Ala	Phe	Thr	Phe



225		230		235		240
Asn Thr Ser Ser Pro	Ser Ser Glu Gly Ser	Leu Ser Gln Arg Gln Arg				
	245	250		255		
Ser Thr Ser Thr Pro	Asn Val His Met Val Ser	Thr Thr Leu Pro Val				
	260	265		270		
Asp Ser Arg Met Ile	Glu Asp Ala Ile Arg Ser	His Ser Glu Ser Ala				
	275	280		285		
Ser Pro Ser Ala Leu	Ser Ser Ser Pro Asn Asn	Leu Ser Pro Thr Gly				
	290	295		300		
Trp Ser Gln Pro Lys	Thr Pro Val Pro Ala Gln	Arg Glu Arg Ala Pro				
305	310	315		320		
Val Ser Gly Thr Gln	Glu Lys Asn Lys Ile Arg	Pro Arg Gly Gln Arg				
	325	330		335		
Asp Ser Ser Tyr Trp	Glu Ile Glu Ala Ser Glu	Val Met Leu Ser				
	340	345		350		
Thr Arg Ile Gly Ser	Gly Ser Phe Gly Thr Val	Tyr Lys Gly Lys Trp				
	355	360		365		
His Gly Asp Val Ala	Val Lys Ile Leu Lys Val	Val Asp Pro Thr Pro				
	370	375		380		
Glu Gln Phe Gln Ala	Phe Arg Asn Glu Val Ala	Val Leu Arg Lys Thr				
385	390	395		400		
Arg His Val Asn Ile	Leu Leu Phe Met Gly Tyr	Met Thr Lys Asp Asn				
	405	410		415		
Leu Ala Ile Val Thr	Gln Trp Cys Glu Gly Ser	Ser Leu Tyr Lys His				
	420	425		430		
Leu His Val Gln Glu	Thr Lys Phe Gln Met Phe	Gln Leu Ile Asp Ile				
	435	440		445		
Ala Arg Gln Thr Ala	Gln Gly Met Asp Tyr Leu	His Ala Lys Asn Ile				
	450	455		460		
Ile His Arg Asp Met	Lys Ser Asn Asn Ile Phe	Leu His Glu Gly Leu				
465	470	475		480		
Thr Val Lys Ile Gly	Asp Phe Gly Leu Ala Thr	Val Lys Ser Arg Trp				
	485	490		495		
Ser Gly Ser Gln Gln	Val Glu Gln Pro Thr Gly	Ser Val Leu Trp Met				
	500	505		510		
Ala Pro Glu Val Ile	Arg Met Gln Asp Asn Asn	Pro Phe Ser Phe Gln				
	515	520		525		
Ser Asp Val Tyr Ser	Tyr Gly Ile Val Leu Tyr	Glu Leu Met Thr Gly				
	530	535		540		
Glu Leu Pro Tyr Ser	His Ile Asn Asn Arg Asp	Gln Ile Ile Phe Met				
545	550	555		560		
Val Gly Arg Gly Tyr	Ala Ser Pro Asp Leu Ser	Lys Leu Tyr Lys Asn				
	565	570		575		
Cys Pro Lys Ala Met	Lys Arg Leu Val Ala Asp	Cys Val Lys Lys Val				
	580	585		590		
Lys Glu Glu Arg Pro	Leu Phe Pro Gln Ile Leu	Ser Ser Ile Glu Leu				
	595	600		605		
Leu Gln His Ser Leu	Pro Lys Ile Asn Arg Ser	Ala Ser Glu Pro Ser				
	610	615		620		
Leu His Arg Ala Ala	His Thr Glu Asp Ile Asn	Ala Cys Thr Leu Thr				
625	630	635		640		
Thr Ser Pro Arg Leu	Pro Val Phe					
	645					

<210> 4931  
 <211> 261  
 <212> DNA  
 <213> Homo sapiens

<400> 4931  
 atcatcctgg gcctggcctt tggcnacctg gagagtaagt ccagcatcaa gcgggtgctg  
 60  
 gccatcacca cagtgtgtgc cccggcccta tccgtcaccc aggggacctg gaagatcctg  
 120  
 taccctgatg cccatctctc agctgaggac tttaatatct atggccatgg gggccgccag  
 180  
 ttctggctgg tcagctctcg cttcttcttc ctgctcggag gagcttctac gtgtatgcgg  
 240  
 gcatcctggc accgctcaac n  
 261

<210> 4932  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 4932  
 Ile Ile Leu Gly Leu Ala Phe Gly Xaa Leu Glu Ser Lys Ser Ser Ile  
 1 5 10 15  
 Lys Arg Val Leu Ala Ile Thr Thr Val Leu Ser Pro Ala Leu Ser Val  
 20 25 30  
 Thr Gln Gly Thr Arg Lys Ile Leu Tyr Pro Tyr Ala His Leu Ser Ala  
 35 40 45  
 Glu Asp Phe Asn Ile Tyr Gly His Gly Gly Arg Gln Phe Trp Leu Val  
 50 55 60  
 Ser Ser Cys Phe Phe Phe Leu Leu Gly Gly Ala Ser Thr Cys Met Arg  
 65 70 75 80  
 Ala Ser Trp His Arg Ser Thr  
 85

<210> 4933  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 4933  
 ntgacgaggc cgctcgtggt tttctcttct gccctcactc agccgcgagg gccagccgc  
 60  
 ctttgtcctc ctggtggcca cggatatttt agcacgctcc gttctgaggg aggacgggct  
 120  
 ccaagggctg ggcattggcg caccgctggt tcacctctc tegtcttct ccacaggtgt  
 180  
 gcttcccgca cagctgcagc catggggctc gaggaccacg gcgcccagaa cccagctgt  
 240  
 aaaatcatga cgtttcgccc aaccatggaa gaatttaaag acttcaacaa atacgtggcc  
 300  
 tacatagagt cgcagggagc ccaccgggcg ggcctggcca agatcatccc cccgaaggag  
 360

tggagccgc ggcagacgta tgatgacatc gacgacgtgg tgatcccggc gcccatccag  
 420  
 caggtggtga cgggccagtc gggcctcttc acgcagtaca atatccagaa gaaggccatg  
 480  
 acagtgggcg agtaccgccg cctggccaac agcgagaagt actgtacccc gcggcaccag  
 540  
 gactttgacg accttgaacg caaatactgg aagaacctca cctttgtctc cccgatctac  
 600  
 ggggctgaca tcagcggctc tttgtatgat gacgtaagta tgaggctccg gggaagaaca  
 660  
 gggaccagct tcctggtggg tgggtggtggg agggccctga acgggactct gccttggcag  
 720  
 atgaagcttc caggcaggca aggttaaccc cctcgcccag gctctggatg cgggcctcgc  
 780  
 cctgtggtga cgaaagagga agccaggctt tctctgattt ttgcagggcc cctcctgcct  
 840  
 caccctgcag cccccacct gagctcacc cggccccacc tctggcctca gcagccggcc  
 900  
 cacagcgtgt taaaaacacg tgtactttcc cagtcacctgc cgctcgtctt cctggcactg  
 960  
 tggagcctcg agtcc  
 975

<210> 4934

<211> 181

<212> PRT

<213> Homo sapiens

<400> 4934

Met	Gly	Ser	Glu	Asp	His	Gly	Ala	Gln	Asn	Pro	Ser	Cys	Lys	Ile	Met
1				5				10						15	
Thr	Phe	Arg	Pro	Thr	Met	Glu	Glu	Phe	Lys	Asp	Phe	Asn	Lys	Tyr	Val
			20					25					30		
Ala	Tyr	Ile	Glu	Ser	Gln	Gly	Ala	His	Arg	Ala	Gly	Leu	Ala	Lys	Ile
		35					40					45			
Ile	Pro	Pro	Lys	Glu	Trp	Lys	Pro	Arg	Gln	Thr	Tyr	Asp	Asp	Ile	Asp
	50					55					60				
Asp	Val	Val	Ile	Pro	Ala	Pro	Ile	Gln	Gln	Val	Val	Thr	Gly	Gln	Ser
65					70					75				80	
Gly	Leu	Phe	Thr	Gln	Tyr	Asn	Ile	Gln	Lys	Lys	Ala	Met	Thr	Val	Gly
			85						90					95	
Glu	Tyr	Arg	Arg	Leu	Ala	Asn	Ser	Glu	Lys	Tyr	Cys	Thr	Pro	Arg	His
			100					105					110		
Gln	Asp	Phe	Asp	Asp	Leu	Glu	Arg	Lys	Tyr	Trp	Lys	Asn	Leu	Thr	Phe
		115					120					125			
Val	Ser	Pro	Ile	Tyr	Gly	Ala	Asp	Ile	Ser	Gly	Ser	Leu	Tyr	Asp	Asp
		130				135					140				
Val	Ser	Met	Arg	Leu	Arg	Gly	Arg	Thr	Gly	Thr	Ser	Phe	Leu	Val	Gly
145					150					155				160	
Gly	Gly	Gly	Arg	Ala	Leu	Asn	Gly	Thr	Leu	Pro	Trp	Gln	Met	Lys	Leu
			165					170						175	
Pro	Gly	Arg	Gln	Gly											
			180												

<210> 4935  
<211> 1668  
<212> DNA  
<213> Homo sapiens

<400> 4935  
ggcaagttct tagcgtgctg gagccaggac gggtttctgc ggggtgttcaa ctttgactca  
60  
gtggagctgc acggtacgat gaaaagctac tttgggggct tgctgtgtgt gtgctggagc  
120  
ccggatggca agtacatcgt gacagggtggg gaggacgact tgggtgacagt ctggtccttt  
180  
gtagactgcc gagtaatagc cagaggccac gggcacaagt cctgggtcag tgttgtagcg  
240  
tttgaccctt ataccactag tgtagaagaa ggtgacccta tggagttag tggcagcgat  
300  
gaggacttcc aagaccttct tcattttggc gagatcgagc aaatagtaca cagtccaggc  
360  
tctccaaacg gaactctaca gacagccgcc ccgagtgtca cgtatcgggt tggttccgtg  
420  
ggccaggaca cacagctctg tttatgggac cttacagaag atatcctttt ccctcaccaa  
480  
cccctctcaa gagcaaggac acacacaaat gtcattgaatg ccacgagtcc tcctgctgga  
540  
agcaatggga acagtgttac aacaccggg aactctgtgc cgcctcctct gccacggctc  
600  
aacagccttc cacattcagc agtctcaaat gctggcagca aaagcagtgt catggacggg  
660  
gccattgctt ctggggtcag caaatttgca acactttcac tacatgaccg gaaggagagg  
720  
caccacgaga aagatcacia gcgaaatcat agcatgggac acatttctag caagagcagt  
780  
gacaaactga atctagttac caaaaccaa acggaccctg ctaaaactct gggaacgcc  
840  
ctgtgtcctc gaatggaaga tgttcccttg ttagagccgc tgatatgtaa aaagatagca  
900  
catgagagac tgactgtact aatatttctt gaagactgta tagtactgc ttgtcaggag  
960  
ggatttattt gcacatgggg aaggcctggt aaagtggtaa gttttaatcc ttaatgctgc  
1020  
accagatcta gaacttgaat aggtagtgc ttttttctt ttcgtgggag ggggtgggtg  
1080  
tacaatgaat gtgaatgaca cttcttattc ttaatgtaaa tctcaatgca tcagagccat  
1140  
aattttggat actgcatgcc atgtaattct gaatcatttg ataatttacc ttagagcatt  
1200  
taaaaaaata taatcaaact aattgccagc caagtcagtc atcctcctgg gagtatatag  
1260  
agtcccaagg ttagcgtctc tgtattagac tatttcaatt ttaggaaaat catgaccatg  
1320  
tggggaaaca atgacttta aatgctgaaa ttaaaattta tgctttaact ggaatatttt  
1380  
ttgcttaact actcaattag aatattgtac acctgatcaa tgtgtgttca gcacagatgg  
1440

ccatgaattg tcatttatag tccaattttt tatcttaatc ataaaaatggt taggaatcta  
 1500  
 tgaaatttaa ctttaggaac aaaacgttta gcagggttga ttgatattat ttttacattg  
 1560  
 ttctggcaat ccacagaaag agaagagcct taatttttaa aaccattttt agtcatttta  
 1620  
 tgacaattaa agttgtttta taaacatctt ttttcaaaga aaaaaaaa  
 1668

<210> 4936

<211> 337

<212> PRT

<213> Homo sapiens

<400> 4936

Gly	Lys	Phe	Leu	Ala	Cys	Val	Ser	Gln	Asp	Gly	Phe	Leu	Arg	Val	Phe
1				5					10					15	
Asn	Phe	Asp	Ser	Val	Glu	Leu	His	Gly	Thr	Met	Lys	Ser	Tyr	Phe	Gly
			20					25					30		
Gly	Leu	Leu	Cys	Val	Cys	Trp	Ser	Pro	Asp	Gly	Lys	Tyr	Ile	Val	Thr
	35						40					45			
Gly	Gly	Glu	Asp	Asp	Leu	Val	Thr	Val	Trp	Ser	Phe	Val	Asp	Cys	Arg
	50					55					60				
Val	Ile	Ala	Arg	Gly	His	Gly	His	Lys	Ser	Trp	Val	Ser	Val	Val	Ala
65					70				75					80	
Phe	Asp	Pro	Tyr	Thr	Thr	Ser	Val	Glu	Glu	Gly	Asp	Pro	Met	Glu	Phe
			85					90					95		
Ser	Gly	Ser	Asp	Glu	Asp	Phe	Gln	Asp	Leu	Leu	His	Phe	Gly	Glu	Ile
		100					105					110			
Glu	Gln	Ile	Val	His	Ser	Pro	Gly	Ser	Pro	Asn	Gly	Thr	Leu	Gln	Thr
	115					120					125				
Ala	Ala	Pro	Ser	Val	Thr	Tyr	Arg	Phe	Gly	Ser	Val	Gly	Gln	Asp	Thr
	130					135					140				
Gln	Leu	Cys	Leu	Trp	Asp	Leu	Thr	Glu	Asp	Ile	Leu	Phe	Pro	His	Gln
145					150					155				160	
Pro	Leu	Ser	Arg	Ala	Arg	Thr	His	Thr	Asn	Val	Met	Asn	Ala	Thr	Ser
			165					170					175		
Pro	Pro	Ala	Gly	Ser	Asn	Gly	Asn	Ser	Val	Thr	Thr	Pro	Gly	Asn	Ser
		180				185							190		
Val	Pro	Pro	Pro	Leu	Pro	Arg	Ser	Asn	Ser	Leu	Pro	His	Ser	Ala	Val
	195					200					205				
Ser	Asn	Ala	Gly	Ser	Lys	Ser	Ser	Val	Met	Asp	Gly	Ala	Ile	Ala	Ser
	210				215					220					
Gly	Val	Ser	Lys	Phe	Ala	Thr	Leu	Ser	Leu	His	Asp	Arg	Lys	Glu	Arg
225				230						235				240	
His	His	Glu	Lys	Asp	His	Lys	Arg	Asn	His	Ser	Met	Gly	His	Ile	Ser
			245					250					255		
Ser	Lys	Ser	Ser	Asp	Lys	Leu	Asn	Leu	Val	Thr	Lys	Thr	Lys	Thr	Asp
		260				265						270			
Pro	Ala	Lys	Thr	Leu	Gly	Thr	Pro	Leu	Cys	Pro	Arg	Met	Glu	Asp	Val
	275					280					285				
Pro	Leu	Leu	Glu	Pro	Leu	Ile	Cys	Lys	Lys	Ile	Ala	His	Glu	Arg	Leu
	290				295					300					
Thr	Val	Leu	Ile	Phe	Leu	Glu	Asp	Cys	Ile	Val	Thr	Ala	Cys	Gln	Glu



85 90 95  
 Trp Ala Leu Tyr Lys Gln Arg Glu Ala Pro Glu Leu Val  
 100 105

<210> 4939  
 <211> 730  
 <212> DNA  
 <213> Homo sapiens

<400> 4939  
 nnacgcgtcc acttttctag aagcccccca gcctccacca tggctcccat cccctctgcc  
 60  
 ctcgctgtct gggagcccg gggatccagc ccacagctgt cctctgcgcc tgcagattcc  
 120  
 tcggcctcta cccgccctcc ccaaggctct cctccctgg actcaaaagc ctctacttgg  
 180  
 ctgcctctgc cagtcacctc ttctctgtct gagccctcca gaccaaattc ttgcccacct  
 240  
 gcatgtcttc ctgtgtctgc ctcttcttt tcttctgagt cccagccttg cccaagcgcc  
 300  
 ccttccaaag cttcaccagc gccagcagcg ctgatgtgtg ggaccacatc accccccata  
 360  
 atcccagcag ccacagagcc agtctgtgca tcctcacggt ccgggaggcc cacagccacc  
 420  
 gcttgacgcc tccagcctct tctggatgtt ctgtcagcct ccgcctctc atcctcagtt  
 480  
 tctctggcat aggcctctcc cagtgcggg caaggccctg cgtctgcccc tgtgcttccg  
 540  
 tccagctcct ggttctctga gacagatgcc tctccctct cagttccaca tcccgcgtcc  
 600  
 tgggttgtca gcccctcccc gcctgcctct gggacttctg atagttcaga ctctcggtct  
 660  
 ccttcagcct cagccgccag ggccctggcct cccgcagtct cctcctctc ccgctgctcg  
 720  
 ccacggccg  
 730

<210> 4940  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

<400> 4940  
 Ser Arg Ser Pro Pro Ala Ser Thr Met Ala Pro Ile Pro Ser Ala Leu  
 1 5 10 15  
 Ala Val Trp Glu Pro Ala Gly Ser Ser Pro Gln Leu Ser Ser Ala Pro  
 20 25 30  
 Ala Asp Ser Ser Ala Ser Thr Arg Pro Pro Gln Gly Pro Pro Ser Leu  
 35 40 45  
 Asp Ser Lys Ala Ser Thr Trp Leu Pro Leu Pro Val Thr Ser Ser Ser  
 50 55 60  
 Ala Glu Pro Ser Arg Pro Asn Ser Cys Pro Pro Ala Cys Ser Pro Ala  
 65 70 75 80  
 Ala Ala Ser Ser Phe Ser Phe Glu Ser Gln Pro Cys Pro Ser Ala Pro

	85		90		95
Ser Lys Ala	Ser Pro Ala	Pro Ala	Ala Leu Met	Cys Gly Thr	Thr Ser
	100		105		110
Pro Pro Ile	Ile Pro Ala	Ala Thr	Glu Pro Val	Cys Ala Ser	Ser Arg
	115		120		125
Ser Gly Arg	Pro Thr Ala	Thr Ala	Cys Ser Leu	Gln Pro Leu	Leu Asp
	130		135		140
Val Leu Ser	Ala Ser Ala	Ser Ser	Ser Ser Val	Ser Leu Ala	
145		150		155	

&lt;210&gt; 4941

&lt;211&gt; 1718

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4941

```

ntcatgaccg aggttgtggt ggccctgctc atgtgcccc tccactgaa cagcaatgga
60
gcagagatgt ggaggcagct gatactgtgt aagcccagct gtgatgtccg agacctcctg
120
gatctgtctc tgggcagcct gaaggagaag cccgtcacca aggagggccg ggcttccatc
180
gtgcccctgg cggcagccag cggcctgtgc gagctcctgt ccgtcaacag ctgcatgggc
240
cgtgtgaggg gcatctaccc tcagctgctc ctggccctgc tcattcaggt ccattaccac
300
atcgccctca acctgcctgg ctgcgtggct cctcccaagg acaccaagaa ggggtgcacag
360
ccctctccct tegtacctgt gcgctgggtg gtgaaagtgg tgaaaaccct gctactgagg
420
atgggctgct cttatgagac cacgtttctg gaggaccagg gtggctggga gctcatggag
480
caggtggaga gccaccaccg cggagtggcc ttgctggcaa gggccatggt gcagtactcc
540
tgccaggagc tgtgccgcat cctctacctg ctcatcccg ccttgagcg aggcgacgag
600
aagcacagga tcacggccac cgccttcttc gtggagctcc tccagatgga gcaggtgcgc
660
cggatccccg aggaatactc tctggggcgg atggcagaag gcctgagcca ccacgacccc
720
atcatgaagg tgctgtccat tcgaggcctg gtcattcctg cccgcaggtc tgagaagacc
780
gccaaagtga aggccctcct gccttccatg gtgaagggcc tgaagaacat ggtatgggatg
840
ctgggtggtg aagcgggtcca caacctcaag gctgtcttca aggggcggga ccagaagctg
900
atggacagtg cggctctatg ggagatgctg cagatcctgc tgccgcactt cagcgacgca
960
cgagaggtcg tgcgctcctc ctgcatcaac ctgtatggga aggtgggtcca gaagcttcgg
1020
gcaccacgca ctcaggccat ggaggagcag ctggtcagca ccttggtgcc cctactgctg
1080
accatgcagg agggcaactc caaggtaagc cagaagtgtg tgaagaccct gttacgctgt
1140

```



tcttacttca tggcttgga gttgccaaaa agagcttata gccggaagcc ctgggacaac  
 1200  
 caacagcaga cagtggccaa aatttgcaag tgccttgta acacccaccg agacagcgcc  
 1260  
 ttcattatcc tcagccagag cctggagtat gccagaact cacgggcctc cctccggaag  
 1320  
 tgctcagtca tggtcatagg gtccctgggc cctgcatgg agagcataat gacagaagat  
 1380  
 cgtctgaatg aagtgaagc tgctctggat aacttgagac atgaccaga agcatcagtg  
 1440  
 tgcattacg cagcccaggt ccaggaccac atcctggcca gctgctggca gaactcctgg  
 1500  
 ctgccgcagc ggaactcatg ggtgtgttac tcagccacca cccaccgctg gagccccagc  
 1560  
 tgtgagaacc tgcccacttc ccaccagcgg cgctcctgga tcatgcaggc actgggctcc  
 1620  
 tggaagatgt ccttgaagaa gtgacgtccc tgagcccaaa accctcctca ggggtggtga  
 1680  
 gttccagcca tgctccctat aaatgtcatg tggcttaa  
 1718

&lt;210&gt; 4942

&lt;211&gt; 469

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4942

Met	Gly	Arg	Val	Arg	Arg	Ile	Tyr	Pro	Gln	Leu	Leu	Leu	Ala	Leu	Leu	1	5	10	15
Ile	Gln	Val	His	Tyr	His	Ile	Gly	Leu	Asn	Leu	Pro	Gly	Cys	Val	Ala	20	25	30	
Pro	Pro	Lys	Asp	Thr	Lys	Lys	Gly	Ala	Gln	Pro	Ser	Pro	Phe	Val	Pro	35	40	45	
Val	Arg	Trp	Val	Val	Lys	Val	Val	Lys	Thr	Leu	Leu	Leu	Arg	Met	Gly	50	55	60	
Cys	Ser	Tyr	Glu	Thr	Thr	Phe	Leu	Glu	Asp	Gln	Gly	Gly	Trp	Glu	Leu	65	70	75	80
Met	Glu	Gln	Val	Glu	Ser	His	His	Arg	Gly	Val	Ala	Leu	Leu	Ala	Arg	85	90	95	
Ala	Met	Val	Gln	Tyr	Ser	Cys	Gln	Glu	Leu	Cys	Arg	Ile	Leu	Tyr	Leu	100	105	110	
Leu	Ile	Pro	Leu	Leu	Glu	Arg	Gly	Asp	Glu	Lys	His	Arg	Ile	Thr	Ala	115	120	125	
Thr	Ala	Phe	Phe	Val	Glu	Leu	Leu	Gln	Met	Glu	Gln	Val	Arg	Arg	Ile	130	135	140	
Pro	Glu	Glu	Tyr	Ser	Leu	Gly	Arg	Met	Ala	Glu	Gly	Leu	Ser	His	His	145	150	155	160
Asp	Pro	Ile	Met	Lys	Val	Leu	Ser	Ile	Arg	Gly	Leu	Val	Ile	Leu	Ala	165	170	175	
Arg	Arg	Ser	Glu	Lys	Thr	Ala	Lys	Val	Lys	Ala	Leu	Leu	Pro	Ser	Met	180	185	190	
Val	Lys	Gly	Leu	Lys	Asn	Met	Asp	Gly	Met	Leu	Val	Val	Glu	Ala	Val	195	200	205	
His	Asn	Leu	Lys	Ala	Val	Phe	Lys	Gly	Arg	Asp	Gln	Lys	Leu	Met	Asp				

210                      215                      220  
 Ser Ala Val Tyr Val Glu Met Leu Gln Ile Leu Leu Pro His Phe Ser  
 225                      230                      235                      240  
 Asp Ala Arg Glu Val Val Arg Ser Ser Cys Ile Asn Leu Tyr Gly Lys  
                     245                      250                      255  
 Val Val Gln Lys Leu Arg Ala Pro Arg Thr Gln Ala Met Glu Glu Gln  
                     260                      265                      270  
 Leu Val Ser Thr Leu Val Pro Leu Leu Thr Met Gln Glu Gly Asn  
                     275                      280                      285  
 Ser Lys Val Ser Gln Lys Cys Val Lys Thr Leu Leu Arg Cys Ser Tyr  
                     290                      295                      300  
 Phe Met Ala Trp Glu Leu Pro Lys Arg Ala Tyr Ser Arg Lys Pro Trp  
 305                      310                      315                      320  
 Asp Asn Gln Gln Gln Thr Val Ala Lys Ile Cys Lys Cys Leu Val Asn  
                     325                      330                      335  
 Thr His Arg Asp Ser Ala Phe Ile Phe Leu Ser Gln Ser Leu Glu Tyr  
                     340                      345                      350  
 Ala Lys Asn Ser Arg Ala Ser Leu Arg Lys Cys Ser Val Met Phe Ile  
                     355                      360                      365  
 Gly Ser Leu Val Pro Cys Met Glu Ser Ile Met Thr Glu Asp Arg Leu  
                     370                      375                      380  
 Asn Glu Val Lys Ala Ala Leu Asp Asn Leu Arg His Asp Pro Glu Ala  
 385                      390                      395                      400  
 Ser Val Cys Ile Tyr Ala Ala Gln Val Gln Asp His Ile Leu Ala Ser  
                     405                      410                      415  
 Cys Trp Gln Asn Ser Trp Leu Pro His Gly Asn Ser Trp Val Cys Tyr  
                     420                      425                      430  
 Ser Ala Thr Thr His Arg Trp Ser Pro Ser Cys Glu Asn Leu Pro Thr  
                     435                      440                      445  
 Ser His Gln Arg Arg Ser Trp Ile Met Gln Ala Leu Gly Ser Trp Lys  
                     450                      455                      460  
 Met Ser Leu Lys Lys  
 465

&lt;210&gt; 4943

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4943

nnacgcgtgg gtaggaagg gcaggtctag gtaaggctgt cgggtgacttt gggggctctgc  
 60  
 agcaaggggc gatggctgcg aagtctacgg ggggtctcaa ccttgtagag tcgccaggaa  
 120  
 tagggcgaat ccacttcatt agtgaccagc tcgggcgggt cactgcatc acacaaataa  
 180  
 cttggccttt ttctgcctca gttgggggat ttcttaaag tagaataccc gcgtttccgc  
 240  
 tgccgtaatt tcctctcagg cgcaattact ctcttcata ttgggtaaca gtagaaggct  
 300  
 cagtttctct gctcatcaca cggccttcgg cactgtagct ttgggtggtg ggctgcagat  
 360  
 taattttgta accaccttaa gaaaaatag gaactctaac tccttgccac tcaagaaatg  
 420

tcctcccttt cagaatatgc cttccgcacg tctcgtctca gtgcccggtc atttggtgaa  
 480  
 gtcaccaggc ctactaattc caagtctatg aaagtgggtga aactgttttag tgaactgccc  
 540  
 ttggccaaga agaaggagac ttatgattgg tatccaaatc accacactta cgctgaactc  
 600  
 atgcagacgc tccgatttct tggactctac agagatgagc atcaggattt tatggatgag  
 660  
 caaaaacgac taaagaagct tcgtggaaag gagaaaccaa agaaaggaga agggaaaaga  
 720  
 gcagcaaaaa ggaaatagtgt ttgggtccctc aagagggaga ctttcttcct cagtggcgga  
 780  
 gagaagaaag tgcatttatt gtctttccac atattggagg aatgtcatct tcctaaatga  
 840  
 agtttatttg gaggaacaca gtcattctctc ttgtgaaatc taatccgggt acattgtggc  
 900  
 tggtttcttg aacacattct aactgtgcaa aattatcttg gccttggccg tgtaatgtga  
 960  
 ggtttacctg attctctaata gaaataaata cctaagttat aaaaaaaaaa aaaaaaaaaa  
 1020

<210> 4944

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4944

Met	Ser	Ser	Leu	Ser	Glu	Tyr	Ala	Phe	Arg	Met	Ser	Arg	Leu	Ser	Ala
1				5					10					15	
Arg	Leu	Phe	Gly	Glu	Val	Thr	Arg	Pro	Thr	Asn	Ser	Lys	Ser	Met	Lys
			20					25					30		
Val	Val	Lys	Leu	Phe	Ser	Glu	Leu	Pro	Leu	Ala	Lys	Lys	Lys	Glu	Thr
		35					40					45			
Tyr	Asp	Trp	Tyr	Pro	Asn	His	Thr	Tyr	Ala	Glu	Leu	Met	Gln	Thr	
	50				55					60					
Leu	Arg	Phe	Leu	Gly	Leu	Tyr	Arg	Asp	Glu	His	Gln	Asp	Phe	Met	Asp
65				70					75					80	
Glu	Gln	Lys	Arg	Leu	Lys	Lys	Leu	Arg	Gly	Lys	Glu	Lys	Pro	Lys	Lys
			85				90						95		
Gly	Glu	Gly	Lys	Arg	Ala	Ala	Lys	Arg	Lys						
			100				105								

<210> 4945

<211> 1792

<212> DNA

<213> Homo sapiens

<400> 4945

actagtaaca atgccccacc tctaaatcta gaggacaagc tacagagggg tttgaagggg  
 60  
 aagcaggaat tctggcaaca gtgtgtctca ttcattcctc caggccagga gtaccgcatg  
 120  
 tacaacacat atgatgtcca cttttatgct tcctttgccc tcatcatgct ctggcccaaa  
 180

cttgagctca gcctacagta tgacatggct ctggccactc tcagggagga cctgacacgg  
240  
cgacggtacc tgatgagtgg ggtgatggca cctgtgaaaa ggaggaacgt catccccat  
300  
gatattgggg acccagatga tgaacatgg ctccgcgtca atgcatattt aatccatgat  
360  
actgctgatt ggaaggacct gaacctgaag tttgtgctgc aggtttatcg ggactattac  
420  
ctcacgggtg atcaaaactt cctgaaggac atgtggcctg tgtgtctagt aagggatgca  
480  
catgcagtgg ccagtgtgcc aggggtatgg ttggtgtctg ggaagagcct agctggttgt  
540  
tgcttttctt cggtagctag gtcttcaaca tcttggtccc tctctaggct gtgatggaat  
600  
ctgaaatgaa gtttgacaag gaccatgatg gactcattga aaatggaggc tatgcagacc  
660  
agacctatga tggatgggtg accacaggcc ccaggtagc gggtaggggt ttccaggagg  
720  
cctgaggtga gaaactgggc aacaagggat tgtagggctc aagaaagaat gactcattgt  
780  
ctattacacg gcatggggagc agctggagct gccagtctga ccccaaacc catgtccctg  
840  
atcagtgctt actgtggagg gctgtggctg gcagctgtgg ctgtgatggc ccagatggct  
900  
gctctgtgtg gggcacagga catccaggat aagttttctt ctatcctcag cgggggcaa  
960  
gaagcctatg agagactgct gtggaatggt gagttcgggg agcctaagta gtcttaaggc  
1020  
agctgagagg acaccaggag ccttattttt ctcttcctcg actccaggcc gctattacaa  
1080  
ctatgacagc agctctcggc ctgagctctg tagtgttatg tctgaccagt gtgctggaca  
1140  
gtggttctcg aaggcctgtg gcctaggaga aggagacact gaggtgtttc ctaccaaca  
1200  
tgtggtccgt gctctccaaa ctatctttga gctgaacgct caggcctttg caggaggggc  
1260  
catgggggct gtgaatggga tgcagcccca tgggtgacct gataaatcca gtgtgcagtc  
1320  
tgatgaagtc tgggtgggtg tggctctacgg gctggcagct accatgatcc aagaggtaat  
1380  
gcactccttt tcccatctct ccaccatctg tatcctggcc cagaaaactt cctcaaccac  
1440  
caaatttctt caaggcataa cccaatgcc a tctgtccgt ctataaagcc tccattttt  
1500  
ccctggatg cattccagct cctgccttca ggcttctgtc tgtgggtcat agttatctcc  
1560  
tccacttgct gggagctcct tgaaggcaaa gactctactg cctccatcta tccagtggaa  
1620  
gtggctcttc agagggtgcc aagttagtat gtatgactgt catctctccc aacagggcct  
1680  
gacttgggag ggcttccaga cagctgaagg ctgctaccgt accgtgtggg agcgccctggg  
1740  
tctggccttc cagaccccag aggcatactg ccagcagcga gtgttccgcg cg  
1792

<210> 4946  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 4946  
 Thr Ser Asn Asn Ala Pro Pro Leu Asn Leu Glu Asp Lys Leu Gln Arg  
 1 5 10 15  
 Gly Leu Lys Gly Lys Gln Glu Phe Trp Gln Gln Cys Val Ser Phe Ile  
 20 25 30  
 Pro Pro Gly Gln Glu Tyr Arg Met Tyr Asn Thr Tyr Asp Val His Phe  
 35 40 45  
 Tyr Ala Ser Phe Ala Leu Ile Met Leu Trp Pro Lys Leu Glu Leu Ser  
 50 55 60  
 Leu Gln Tyr Asp Met Ala Leu Ala Thr Leu Arg Glu Asp Leu Thr Arg  
 65 70 75 80  
 Arg Arg Tyr Leu Met Ser Gly Val Met Ala Pro Val Lys Arg Arg Asn  
 85 90 95  
 Val Ile Pro His Asp Ile Gly Asp Pro Asp Asp Glu Pro Trp Leu Arg  
 100 105 110  
 Val Asn Ala Tyr Leu Ile His Asp Thr Ala Asp Trp Lys Asp Leu Asn  
 115 120 125  
 Leu Lys Phe Val Leu Gln Val Tyr Arg Asp Tyr Tyr Leu Thr Gly Asp  
 130 135 140  
 Gln Asn Phe Leu Lys Asp Met Trp Pro Val Cys Leu Val Arg Asp Ala  
 145 150 155 160  
 His Ala Val Ala Ser Val Pro Gly Val Trp Leu Val Ser Gly Lys Ser  
 165 170 175  
 Leu Ala Gly Cys Cys Leu Ser Ser Val Pro Arg Ser Ser Thr Ser Trp  
 180 185 190  
 Ser Leu Ser Arg Leu  
 195

<210> 4947  
 <211> 2060  
 <212> DNA  
 <213> Homo sapiens

<400> 4947  
 nagtactgga tcccatcctg ggtgggggttc tcctagtggc ctgagtgtgc caccaggtct  
 60  
 gcagggagga ggaatccatg caggagggtta gaagagtcag aagattttat tggctgtctt  
 120  
 cacttgaata acagccctgt ggcatttttag atctcgagca ctgggatttg tcaattgtca  
 180  
 atgtgatgct tggggactgg catattcggt gcaaggggtt ttttcacctt ttctgaagct  
 240  
 tcctttttcc tctgttttaa agcatatcac agtatgggcc attctctgag tgaagaaagt  
 300  
 acagagtga agtacacccg aagtgagagg gactcagaca tcttgtgtcc ttgtctcagc  
 360  
 tggaagacta ctaagcacgt agtttcagtc attcagttga tagacatttg aacacttatg  
 420

gtggtgcta accccaggcc gagtgtgact cattccacct tgcagttaaa gcagtggaag  
480  
tgcacgtatg aggccctcaa ctgccttccct gattcagcat agtgttttct tctgggctgc  
540  
ttcactaaga gaaaacctta cagccaatcc aggacctctc tgatcacctc cccagtggat  
600  
gtagcattgg taaagtggaa ggaccttggt ctgtttgtca gtaggagctg atgtgtgtga  
660  
acggactcct atctctgctt cttcctttgt gtgacagact ggggtatctt tgcccatcct  
720  
tgcttagacc agtctagacc ctctggccct ctgcattccc agttccaaat gctagggatg  
780  
gagaatgtgc ttgggcttgc ataagacggg gctatgcccc tggctctcct cagctgtagt  
840  
cagcattgct agctgcccac aactcacgcc agtgggtgaa gatgctggtc tcagagaacc  
900  
agagcttggc agggccctc atacacctct tggagaggta gatgctggtc aactatgcac  
960  
cattacctgt gagcagagct tactcctctg ccattctctc tccaggccct cagcatectc  
1020  
atgctccctc acaacatccc gtccagcctg agcctgctca ccagcatggt ggatgacatg  
1080  
tggcattacg ctggggacca gtccactgat tttaactggg acacccgccg agccatgctg  
1140  
gctgccatct acaacacaac agagctgggt atgatgcagg actcctctcc agactttgag  
1200  
gacacttggc gcttcctgga aaaccgggtt aatgatgcaa tgaacatggg ccacactgcc  
1260  
aagcaggtaa agtccacagg agaggcactg gtgcaaggac tcatgggtgc agcagtgcg  
1320  
ctcaagaact tgacangtct aaaccagcgt cggtgagagg aaggggtata agctacaatg  
1380  
cctagaagag aatgagcggg cagattgaaa gagctttgaa aagtataagg tgccatccac  
1440  
ataacctggt gttcacgaga acacactaaa ggactcctga gtcactacca cagccacctg  
1500  
gaaaccacaa ggcatttgat gctaccgttc tggtcaggga ttgggctgct tcttcagttc  
1560  
ctaataccag accaagcctc ctgatgcctt tctgcactgc aactgtgtga ttgaaaaatg  
1620  
agatgttcat ccaagcagtc aagccacaga aaccagcat gtccctgtca caatctcatg  
1680  
ggcaccttga tcatgtctta accttccctt aaccttgggg ctcccaagcc agagtcaagg  
1740  
tctgacgcca cctcaagggt acagctcatc tccagcacag cacaggcgtg tgcacacaga  
1800  
ggtgttccct gcagccccct cctctcagg tytctgaga tgetgctcct gggagcccc  
1860  
tcagaaaact gcctcacctg agacaagtgc ctgctggaca gaggtgtgat tccaggcctg  
1920  
gtgtcacatg acaccagcat gcattgcagg attattagtg tattttgagt ctgtaaaaat  
1980  
aataaatatg tttgaagtag ttaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
2040

aaaaaaaaaa aaaaaaaaaa

2060

&lt;210&gt; 4948

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4948

Ala Glu Leu Thr Pro Leu Pro Phe Ser Leu Gln Ala Leu Ser Ile Leu  
 1 5 10 15  
 Met Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Leu Thr Ser Met  
 20 25 30  
 Val Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn  
 35 40 45  
 Trp Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu  
 50 55 60  
 Leu Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg  
 65 70 75 80  
 Phe Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala  
 85 90 95  
 Lys Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly  
 100 105 110  
 Ala Ala Val Thr Leu Lys Asn Leu Thr Xaa Leu Asn Gln Arg Arg  
 115 120 125

&lt;210&gt; 4949

&lt;211&gt; 1259

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4949

nngccggcct gtccccagg ctacttgacg gcgccctgcc accggtgccg ggggctgggtg  
 60  
 gacaagttaa accaggggat ggtggacacc gcaaagaaga actttggcgg cggaacacg  
 120  
 gcttgggagg aaaagacgct gtccaagtac gaggccagcg agattcgcct gctggagatc  
 180  
 ctggaggggc tgtgcgagag cagcgacttc gaatgcaatc agatgctaga ggcgcaggag  
 240  
 gagcacctgg aggcctggtg gctgcagctg aagagcgaat atcctgactt attcagatgg  
 300  
 ttttgtgtga agacactgaa agtgtgctgc tctccaggaa cctacggtcc cgactgtctc  
 360  
 gcatgccagg gcggatccca gaggccctgc agcgggaatg gccactgcag cggagatggg  
 420  
 agcagacagg gcgacgggtc ctgccggtgc cacatggggg accagggccc gctgtgcact  
 480  
 gactgcatgg acggctactt cagctcgtc cggaacgaga cccacagcat ctgcacagcc  
 540  
 tgtgacgagt cctgcaagac gtgctcgggc ctgaccaaca gagactgcgg cgagtgtgaa  
 600  
 gtgggctggg tgctggacga gggcgctgt gtggatgtgg acgagtgtgc ggccgagccg  
 660

cctccctgca gcgctgcgca gttctgtaag aacgccaaacg gctcctacac gtgcgaagag  
 720  
 tgtgactcca gctgtgtggg ctgcacaggg gaaggcccag gaaactgtaa agagtgtatc  
 780  
 tctggctacg cgagggagca cggacagtgt gcagatgtgg acgagtgtctc actagcagaa  
 840  
 aaaacctgtg tgaggaaaaa cgaaaactgc tacaatactc cagggagcta cgtctgtgtg  
 900  
 tgtcctgacg gcttcgaaga anacggaaga tgcctgtgtg ccgccggcag aggctgaagc  
 960  
 cacagaagga gaaagcccga cacagctgcc ctcccgcgaa gacctgtaat gtgccggact  
 1020  
 taccctttaa attattcaga aggatgtccc gtggaaaatg tggccctgag gatgccgtct  
 1080  
 cctgcagtgg acagcggcgg ggagaggctg cctgctctct aacggttgat tctcatttgt  
 1140  
 cccttaaaca gctgcatttc ttggttggtc ttaaacagac ttgtatatatt tgatacagtt  
 1200  
 ctttgaata aaattgacca ttgtaggtaa tcaggaggaa aaaaaaaaaa aaaaaaaaaa  
 1259

<210> 4950

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4950

Xaa	Pro	Ala	Cys	Pro	Pro	Gly	Tyr	Leu	Thr	Ala	Pro	Cys	His	Arg	Cys
1			5						10					15	
Arg	Gly	Leu	Val	Asp	Lys	Phe	Asn	Gln	Gly	Met	Val	Asp	Thr	Ala	Lys
		20					25						30		
Lys	Asn	Phe	Gly	Gly	Gly	Asn	Thr	Ala	Trp	Glu	Glu	Lys	Thr	Leu	Ser
	35					40						45			
Lys	Tyr	Glu	Ser	Ser	Glu	Ile	Arg	Leu	Leu	Glu	Ile	Leu	Glu	Gly	Leu
	50					55					60				
Cys	Glu	Ser	Ser	Asp	Phe	Glu	Cys	Asn	Gln	Met	Leu	Glu	Ala	Gln	Glu
65				70					75					80	
Glu	His	Leu	Glu	Ala	Trp	Trp	Leu	Gln	Leu	Lys	Ser	Glu	Tyr	Pro	Asp
			85					90						95	
Leu	Phe	Glu	Trp	Phe	Cys	Val	Lys	Thr	Leu	Lys	Val	Cys	Cys	Ser	Pro
		100						105						110	
Gly	Thr	Tyr	Gly	Pro	Asp	Cys	Leu	Ala	Cys	Gln	Gly	Gly	Ser	Gln	Arg
		115				120						125			
Pro	Cys	Ser	Gly	Asn	Gly	His	Cys	Ser	Gly	Asp	Gly	Ser	Arg	Gln	Gly
	130				135					140					
Asp	Gly	Ser	Cys	Arg	Cys	His	Met	Gly	Tyr	Gln	Gly	Pro	Leu	Cys	Thr
145				150						155				160	
Asp	Cys	Met	Asp	Gly	Tyr	Phe	Ser	Ser	Leu	Arg	Asn	Glu	Thr	His	Ser
			165					170						175	
Ile	Cys	Thr	Ala	Cys	Asp	Glu	Ser	Cys	Lys	Thr	Cys	Ser	Gly	Leu	Thr
		180						185					190		
Asn	Arg	Asp	Cys	Gly	Glu	Cys	Glu	Val	Gly	Trp	Val	Leu	Asp	Glu	Gly
	195						200					205			
Ala	Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Ala	Glu	Pro	Pro	Pro	Cys	Ser



210	215	220
Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys Glu Glu		
225	230	235
Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly Asn Cys		240
	245	250
Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys Ala Asp		255
	260	265
Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys Asn Glu		270
	275	280
Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys Val Cys Pro Asp Gly		285
	290	295
Phe Glu Glu Xaa Gly Arg Cys Leu Cys Ala Ala Gly Arg Gly		300
305	310	315

&lt;210&gt; 4951

&lt;211&gt; 1835

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4951

```

ngagctctgg cgctcagctg gccccacca ctctcacctg ccgcctgggc tcgctcccgg
60
cttctctcca gccgtcgact ccacgcctcg cgcctctcgc gagaggagga ggctccacgg
120
agcgacgact tccgccctcc ttagggccgt ggtcccgtag ctaccggctg cgtcgccgtg
180
ggcgacgtgc ccgcttccaa aatggcggcg gcggcggtat ctggtgctgct tggccggggc
240
ggctggaggg tcttcgagct gcgatgcctg cccgtggccc gttgccgaca agccctgggt
300
ccgcgtgcct tccatgcttc agctgtgggg ctaaggctct cagatgagca gaagcagcag
360
cttcccaact ctttttctca gcagcattct gagacacagg gggcagaaaa acctgatcca
420
gagtcttctc attcaccccc caggtataca gaccagggcg gcgaggagga ggaggactat
480
gaaagtgagg agcagttgca gcaccgcac ctgacggcag cccttgagtt tgtgcccggc
540
cacgggtgga cagcagaggc gattgcagaa ggagcccagt ctctgggtct ctccagtgca
600
gcagccagca tgtttggaag gatgggcagt gagctaatac tgcattttgt gaccagtgcc
660
aatacccggc tcacacgtgt gctagaagag gagcagaagc tggtagagtt ggccaggcg
720
gagaagagga agacagacca gttcctgagg gatgcagtgg aaaccagact gagaatgctg
780
atcccatata ttgagcactg gccccggggc ctcagcatcc tcatgctccc tcacaacatc
840
ccgtccagcc tgagcctgct caccagcatg gtggatgaca tgtggcatta cgctggggac
900
cagtccactg attttaactg gtacaccgcg cgagccatgc tggctgccat ctacaacaca
960
acagagctgg tgatgatgca ggactcctct ccagactttg aggacacttg gcgcttctctg
1020

```

gaaaaccggg ttaatgatgc aatgaacatg ggccacactg ccaagcaggt aaagtcacaca  
 1080  
 ggagaggcac tgggtgcaagg actcatgggt gcagcagtga cgctcaagaa cttgacaggt  
 1140  
 ctaaaccagc gtcggtgaga ggaaggggta taagctacaa tgcctagaag agaatgagcg  
 1200  
 gacagattga aagagctttg aaaagtataa ggtgccatcc acataacctg gtgttcacga  
 1260  
 gaacacacta aaggactcct gagtcactac cacagccacc tggaaaccac aaggcatttg  
 1320  
 atgctaccgt tctggtcagg gattgggctg cttcttcagt tcctaatacc agaccaagcc  
 1380  
 tcctgatgcc tttctgcact gcaactgtgt gattgaaaaa tgagatgttc atccaagcag  
 1440  
 tcaagccaca gaaaccagc atgtccctgt cacaatctca tgggcacctt gatcatgtct  
 1500  
 taaccttccc ttaaccttgg ggctcccaag ccagagtcaa ggtctgacgc cacctcaagg  
 1560  
 tgacagctca tctccagcac agcacaggcg tgtgcacaca gaggtgttcc ttgcagcccc  
 1620  
 ctccctctca ggtgtcctga gatgctgctc ctgggagccc cctcagaaaa ctgcctcacc  
 1680  
 tgagacaagt gcctgctgga cagaggtgtg attccaggcc tgggtgtcaca tgacaccagc  
 1740  
 atgcattgca ggattattag tgtattttga gtctgtaaaa ataataaata tgtttgaagt  
 1800  
 agttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 1835

&lt;210&gt; 4952

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4952

Met Ala Ala Ala Val Ser Gly Ala Leu Gly Arg Ala Gly Trp Arg  
 1 5 10 15  
 Leu Leu Gln Leu Arg Cys Leu Pro Val Ala Arg Cys Arg Gln Ala Leu  
 20 25 30  
 Val Pro Arg Ala Phe His Ala Ser Ala Val Gly Leu Arg Ser Ser Asp  
 35 40 45  
 Glu Gln Lys Gln Gln Pro Pro Asn Ser Phe Ser Gln Gln His Ser Glu  
 50 55 60  
 Thr Gln Gly Ala Glu Lys Pro Asp Pro Glu Ser Ser His Ser Pro Pro  
 65 70 75 80  
 Arg Tyr Thr Asp Gln Gly Gly Glu Glu Glu Glu Asp Tyr Glu Ser Glu  
 85 90 95  
 Glu Gln Leu Gln His Arg Ile Leu Thr Ala Ala Leu Glu Phe Val Pro  
 100 105 110  
 Ala His Gly Trp Thr Ala Glu Ala Ile Ala Glu Gly Ala Gln Ser Leu  
 115 120 125  
 Gly Leu Ser Ser Ala Ala Ala Ser Met Phe Gly Arg Met Gly Ser Glu  
 130 135 140  
 Leu Ile Leu His Phe Val Thr Gln Cys Asn Thr Arg Leu Thr Arg Val

145                      150                      155                      160  
 Leu Glu Glu Glu Gln Lys Leu Val Gln Leu Gly Gln Ala Glu Lys Arg  
                                  165                      170                      175  
 Lys Thr Asp Gln Phe Leu Arg Asp Ala Val Glu Thr Arg Leu Arg Met  
                                  180                      185                      190  
 Leu Ile Pro Tyr Ile Glu His Trp Pro Arg Ala Leu Ser Ile Leu Met  
                                  195                      200                      205  
 Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Leu Thr Ser Met Val  
                                  210                      215                      220  
 Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn Trp  
 225                                   230                                   235                                   240  
 Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu Leu  
                                  245                                   250                                   255  
 Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg Phe  
                                  260                                   265                                   270  
 Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala Lys  
                                  275                                   280                                   285  
 Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly Ala  
                                  290                                   295                                   300  
 Ala Val Thr Leu Lys Asn Leu Thr Gly Leu Asn Gln Arg Arg  
 305                                   310                                   315

<210> 4953  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

<400> 4953  
 gtgcacgcag gaaatggcgg gtgggaggca ggacaggaga gcccaggcct ggacaccact  
 60  
 gtcagcctgg ggatgcttgg cggcttctcc agtcctggga gcaggcatca cctggccgcg  
 120  
 ggtgccccct ggtggcagct tgaaggaagg acgggcagtg ggtcgcagcc agcgggggacc  
 180  
 taccctcgaa aacgcacata aaagctggaa tcagcttggt acagctgcag gtccctctcg  
 240  
 tccgatttgg atagaccctc ttgggaccca ctgcaccagg gaaccccaaa tgcagctcag  
 300  
 cagcatggga ggagccctgt ctgctggggg tgtctgggat cgtcggagag aggct  
 355

<210> 4954  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

<400> 4954  
 Met Ala Gly Gly Arg Gln Asp Arg Arg Ala Gln Ala Trp Thr Pro Leu  
 1                                      5                                      10                                      15  
 Ser Ala Trp Gly Cys Leu Ala Ala Ser Pro Val Leu Gly Ala Gly Ile  
                                  20                                      25                                      30  
 Thr Trp Pro Arg Val Pro Pro Gly Gly Ser Leu Lys Glu Gly Arg Ala  
                                  35                                      40                                      45  
 Val Gly Arg Ser Gln Arg Gly Pro Thr Pro Gln Asn Ala His Lys Ser

```

      50              55              60
Trp Asn Gln Leu Val Thr Ala Ala Gly Pro Ser Arg Pro Ile Trp Ile
65              70              75              80
Asp Pro Leu Gly Thr His Cys Thr Arg Glu Pro Gln Met Gln Leu Ser
      85              90              95
Ser Met Gly Gly Ala Leu Ser Ala Gly Gly Val Trp Asp Arg Arg Arg
      100              105              110
Glu Ala

```

<210> 4955  
 <211> 364  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4955
agatctaagg ccctcgggag agatgggaac tgagcacctg ggtccttagac cggaggagca
60
aactgcaaga caggggtggcc ggggacacca gcctccgccc ttctgtgaca taaggacaag
120
agctcagcct gcccaggaac aactctgggc aagagatgtg gaaagaaaga gctcangggg
180
gggcacgcat ggcatacctgg ggggacatct gagggcaccc ccacccacta ttcctccctc
240
caaggtggcc tctgagtgtg aaggcagggg gaagcagaca cctgccccctc actctccctc
300
cctaccacat agctaccggg tggggggcgt ccctgggatg attcctgagg gcaggatcca
360
gggg
364

```

<210> 4956  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4956
Met Gly Thr Glu His Leu Gly Leu Arg Pro Glu Glu Gln Thr Ala Arg
1      5      10      15
Gln Gly Gly Arg Gly His Gln Pro Pro Phe Cys Asp Ile Arg Thr
20      25      30
Arg Ala Gln Pro Ala Gln Glu Gln Leu Trp Ala Arg Asp Val Glu Arg
35      40      45
Lys Ser Ser Xaa Gly Gly Thr His Gly Ile Leu Gly Gly His Leu Arg
50      55      60
Ala Pro Pro Pro Thr Ile Pro Pro Ser Lys Val Ala Ser Glu Cys Glu
65      70      75      80
Gly Arg Gly Lys Gln Thr Pro Ala Pro His Ser Pro Ser Leu Pro His
85      90      95
Ser Tyr Arg Val Gly Gly Val Pro Gly Met Ile Pro Glu Gly Arg Ile
100      105      110
Gln Gly

```

<210> 4957  
 <211> 872  
 <212> DNA  
 <213> Homo sapiens

<400> 4957  
 nttcatattt tttttttttt ttggacacaa catgatatta ggctttattt gaatttataaa  
 60  
 tcttgattcc atccaggac attttttacc gaagcgtctc agagactggc tcagggtatt  
 120  
 tcttgacaag actgtacagg gcttctcatc atacacaaac cctccacagc ccacggctcc  
 180  
 aaccacagc acctcctgca gtcctggagg gaaaaggac agtaacatga agtgtctgaa  
 240  
 gatccatttc acctcttttc catgtgaatc atgacgcttt caatgcattt cttgacagga  
 300  
 ttctattttg aaagaatgat gctcaatctg taccttttat gcttcttggt tcttctccat  
 360  
 caataatatg tcagtcaact gcttgtcaga gacacttagc tgctgacagg tcctcataac  
 420  
 ctgactcagg taaactgcca agagatgctt gcacaggatg ctgtcactct tccgtagcac  
 480  
 tgagaatgca aatgcaggac atgaacagta atgacaagaa gccaaacatg tgtatgtttt  
 540  
 actggaactt ccaaggacct ggtaaacacg ccttccactg ggtgatgaga ttaaggtgat  
 600  
 ggactgtcga tcaactaggt ccaaggcctg ggtggctgat gagccaaaga gaaacttcag  
 660  
 cgataacaga tattcatcag gaattcgggtc ccgtacttcg cgcgctctcc tgcaccgccg  
 720  
 ccgccatctc gctcaggagc tctccacaa ccgccggcaa ctacggccat cgcgccgcag  
 780  
 gacacgccct ccacgacgcg gaccgcgcga cgctccagct gactgcgcct acctgtggag  
 840  
 gatcctgacc ccccgccggc ctcgttccga at  
 872

<210> 4958  
 <211> 51  
 <212> PRT  
 <213> Homo sapiens

<400> 4958  
 Gln Ile Phe Ile Arg Asn Ser Val Pro Tyr Phe Ala Arg Ser Pro Ala  
 1 5 10 15  
 Pro Pro Pro Pro Ser Arg Ser Gly Ala Pro Pro Gln Pro Pro Ala Thr  
 20 25 30  
 Thr Ala Ile Ala Pro Gln Asp Thr Pro Ser Thr Thr Arg Thr Ala Arg  
 35 40 45  
 Arg Ser Ser  
 50

<210> 4959  
 <211> 449

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4959

acgcgtgtca aggcctgggaa tgcaaattggt agtgggtggtt tcctttgctg ggggttgatg  
60  
cagtgggttg gggggcttcc atttgcagtt gagggccagg tgtttgggtc cttccatgtg  
120  
gcagggataa agaggagagc tggcatctgg agtcatgac tgtctgagag gcagtgcctc  
180  
cggccaccgt aggatggagg ccagcttcca gccctggctg atgggggaga agcagcgaat  
240  
tctccagatg tggataggca gacctttgga agattcactc ggcctccact taaccttggtg  
300  
agaccaaagg ccacagcccc atgtgttctg cgtgctgttg aacatgtttg tatttcattg  
360  
gcgtggatga taatttggtt gaaaggagag atggtcacca gtggactcag tttaggaagg  
420  
cacaaaggtc aaccctttcc gtttctaga  
449

&lt;210&gt; 4960

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4960

Met	Phe	Asn	Ser	Thr	Gln	Asn	Thr	Trp	Gly	Cys	Gly	Leu	Trp	Ser	His
1				5				10				15			
Lys	Val	Lys	Trp	Arg	Pro	Ser	Glu	Ser	Ser	Lys	Gly	Leu	Pro	Tyr	His
			20				25					30			
Ile	Trp	Arg	Ile	Arg	Cys	Phe	Ser	Pro	Ile	Ser	Gln	Gly	Trp	Lys	Leu
		35				40					45				
Ala	Ser	Ile	Leu	Arg	Trp	Pro	Glu	Ala	Leu	Pro	Leu	Arg	Gln	Ile	Met
		50				55					60				
Thr	Pro	Asp	Ala	Ser	Ser	Pro	Leu	Tyr	Pro	Cys	His	Met	Glu	Gly	Pro
65				70						75				80	
Lys	His	Leu	Ala	Leu	Asn	Cys	Lys	Trp	Lys	Pro	Pro	Gln	Pro	Leu	His
			85						90					95	
Gln	Pro	Pro	Ala	Lys	Glu	Thr	Thr	Thr	Thr	Ile	Cys	Ile	Pro	Ser	Leu
			100					105						110	
Asp	Thr	Arg													

&lt;210&gt; 4961

&lt;211&gt; 4737

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4961

gcggccgccca caccagcac cacaggcacc aagtccaaca cgccacacac ctcggtgccc  
60  
tcggccgccg tcacaccct caacgagagc ctgcagcccc tgggggacta tggcgtgggc  
120

tccaagaaca gcaagcgtgc ccgggagaag cgcgacagcc gcaacatgga agtacaggtc  
180  
accaggaga tgcgcaacgt cagtataggc atgggcagca gtgacgagtg gtctgatgtt  
240  
caagacatta ttgactccac gccagagctg gacatgtgtc cagagaccgc cctggaccgc  
300  
acaggaagca gccaaccca gggcatcgtg acaaagctt tcggcatcaa caccgactcc  
360  
ctgtaccatg agctgtcgac ggcagggctc gaggtcatcg gggatgtgga cgaaggggcc  
420  
gacctcctag gggagttctc aggaatgggc aaagaagtgg ggaatctgct actggaaaac  
480  
tcacagcttc tggaaaccaa aaacgccttg aatgtggtga agaatacct gattgccaag  
540  
gtcgaccagc tgtccgggga gcaggaggtg ctgaggggag agttggaggc tgctaagcag  
600  
gcaaagtca agctggaaaa ccgtatcaag gagctggaag aggaactgaa aagagtgaag  
660  
tcaggaggca tcacgccccg ccgtgaaccc aaagaagagg cggaggatgt aagcagctat  
720  
ctctgtacag aatcggacaa aatccccatg gccagcgcc gccgcttcac gcgggtggag  
780  
atggcccgtg tgctcatgga gcggaaccag tacaaggagc ggctgatgga gctgcaggag  
840  
gctgtgcggt ggactgagat gatcagagcg tcccagagc acccatccgt ccaggagaag  
900  
aagaagtcga ccatctggca gttcttcagc cgcctcttca gctcttctc cagccccct  
960  
ccggccaagc gccctatcc ctccgtgaac atccactaca agtcaccac cactgccggc  
1020  
ttcagccagc gccgcaacca tgccatgtgc ccgatctcgg caggcagccg gccctggaa  
1080  
ttcttccctg acgacgactg cacgtcctcc gccgctcgag agcagaagcg cgagcagtac  
1140  
cgccagggtg gtgagcacgt gcgtaacgac gacggccgtc tgcaggcctg cggctggagc  
1200  
ctgcccga agtacaagca gctgagtcac aacgggggcc aggaggacac gcggatgaag  
1260  
aacgtgccgg tgccggtgta ctgccgccct ctggtggaga aggacccac catgaagctg  
1320  
tggtgtgccg cgggcgtcaa cctgagcggg tggaggccca atgaggacga cgctgggaat  
1380  
ggagtcaagc cagcgccagg ccgcatccc ctgacctgag accggaagg agacggcgag  
1440  
cccaagagcg ccacgcgtc tcccgagaag aagaaggcca aggagctccc tgaaatggac  
1500  
gccacctcca gccgggtgtg gatcctgacc agcaccctga ccaccagcaa ggtggtgatc  
1560  
atcgacgcca accagccggg cacggtggtg gaccagttca ccgtctgcaa cgcgcacgtg  
1620  
ctgtgcatct ccagcatccc cgcggccagc gacagcgact accctcccgg ggagatgttc  
1680  
ctggacagcg acgtgaaccc agaggaccgc ggcgagatg gcgtgctggc cggtatcacc  
1740

ctggtgggct gtgccacccg ctgcaacgtg ccgcgaggca actgctcctc ccgaggggac  
1800  
accccagtgc tagacaaggg gcagggggag gtggccacca tcgccaacgg gaaggtcaac  
1860  
ccgtcccagt ccacagagga ggccacagag gccacggagg tgccagaccc tgggcccagc  
1920  
gagccagaga cagccacatt gcggcccggg cctctcacag agcacgtctt cactgaccca  
1980  
gccccgaccc cgtcctctgg cccccagcct ggcagcgaga acggggcaga gcctgacagc  
2040  
agcagcacac ggccagagcc agagcccagc ggggacccca cgggagcagg cagcagtgtc  
2100  
gcaccacca tgtggctggg agcccagaac ggctggctct atgtgcactc ggctgtggcc  
2160  
aactggaaga agtgcctgca ctccatcaag ctgaaggatt ctgtgctgag cctggtgcat  
2220  
gtcaaaggcc gtgtgctggt ggctctggcg gacgggaccc tggccatctt ccaccgtggt  
2280  
gaagatggcc agtgggatct gagcaactat cacctaattg acctgggcca cccgcaccac  
2340  
tccatccgct gcatggctgt tgtgtacgac cgcgtgtggt gtggctacaa gaacaagggtg  
2400  
cacgtcatcc agcccaagac catgcagata gagaagtcac ttgacgcca cccgcggcgg  
2460  
gagagccagg tgcggcagct ggcggtggatc ggcgatggcg tatgggtgtc catccgcctg  
2520  
gactccaccc tgaggctcta ccatgcacac acgcaccagc atctacagga cgtggacatt  
2580  
gagccctacg tcagcaagat gctaggcact ggcaagctgg gtttctcctt cgtacgcac  
2640  
acggccctgc ttgtcgcggg cagccggctc tgggtgggca cgggcaacgg agtggtcac  
2700  
tccatcccc tgacagagac tgtggtcctg caccgaggcc agctcctggg gctccgagcc  
2760  
aataagacat cccccacctc tggggagggc gcccgctccc ggggcatcat ccacgtgtat  
2820  
ggcgatgaca gcagtacag ggcgccagc agcttcatcc cctactgtc catggcccag  
2880  
gcccagctat gcttccatgg gcaccgcat gccgtgaagt tctttgtctc ggtgccaggg  
2940  
aacgtgctgg ccaccctgaa tggcagtgtg ctggacagcc cagccgaggg ccctgggcca  
3000  
gctgccccctg cctcggaggc cgagggccag aagctgcgga acgtgctggt gctgagcggc  
3060  
ggggagggt acatcgactt ccgcattgga gacggagagg acgacgagac ggaggagggc  
3120  
gcaggggaca tgagccaggt gaagcccgtg ctgtccaagg cagagcgag tcacatcatc  
3180  
gtgtggcagg tgcctacac ccccgagtga agctgctgcc ctgcctggcc cgacctgtac  
3240  
ataggacccc cgaccacctg accccgccc ggcccgcggg gtagccagcc aggcgccc  
3300  
gccccctctt taacctctca acctgcagct ttcacctgag tctggcccc ccagcgggca  
3360



gggagtgcgg ggatgcggat cagctgggag gaggagggga ggggtgcttc caccgaggg  
3420  
gaagatgctc tcgggacagt ttcccgggca gctcctggcc agcttccagc ccagagtcct  
3480  
caagtccagg gcaccttggg cccagcgcag gcagaatccg aggtggctct ggctctaccc  
3540  
tgggcctcct actccccagc acccctggag gaggcagggg ctccccgccg ccgaggctgc  
3600  
ctgccctggg cccacctccg catgctgctc atggggccac cctgcctcct gggccctcac  
3660  
tctgcctagg ggagctgggc caggcactag cctttgccc a gggaggtggg cctcaggtg  
3720  
cccaggtgcc tgcaccccag ccggccttct ctggggcctc cccgtcgtca agcctctatc  
3780  
ctgtctgtcc ccaccccagc tgtccctgc ccagggaact ggcataaaag cacgaggccc  
3840  
ggctccctgg ggcagctgct tgagaacaga gactgctacc ccctcctgcc catgcaggca  
3900  
ggctcttgcc agccccgttc tgacctgtgt cccccaggc tctgcctggg cagaagactc  
3960  
accttgagg agtgggacct ggagtcctgt ccctcccaga agccccagg gtgggatttc  
4020  
tcaggctgcc agggcaggcc caggcctcag gaagaagggg agggccctgg cctctccggg  
4080  
atcagtccta ggacacaggc tcagcctcag gttgatgggg gatgatgtgc tccccggggc  
4140  
tgctcctgc acggggctcc acggagccca gctccagac acgctactaa gtgcctaggg  
4200  
ttgcccgtg tggcctgctc ccaggagca acagagaggc caccaagcag agggccgtgg  
4260  
ggctgaggat ggagccgccc ccagccgact ccaagccgc agagggcaga cgccacctg  
4320  
gactgcttc cctgcccagc tgggcctctc tggcctattc ctacctcca ggccactgc  
4380  
actcctgtct gggaggacct tatgagggca gcccagcccc cgcacccacc cccaaccaga  
4440  
gaagcacaga tcttggggag ctgcccaca agccccgtg gccaccgagg gctgcagccg  
4500  
ctgcgtgcc ggcttctccc caccacctg ccacctcac tgtgatgtat gtccgctccc  
4560  
tcgtctgttc ccccaggatc tcgaagtgc tccgggctga gcagtggggc ggctggggga  
4620  
ggggtgacga ttctcctcag gctttggccc tgcaagcaaa cccacatata tgctctgtat  
4680  
gtaataaatg tcttaacgtc aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
4737

&lt;210&gt; 4962

&lt;211&gt; 1069

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4962

Ala Ala Ala Thr Pro Ser Thr Thr Gly Thr Lys Ser Asn Thr Pro Thr

1	5	10	15
Ser Ser Val Pro Ser Ala Ala Val Thr Pro Leu Asn Glu Ser Leu Gln			
20	25	30	
Pro Leu Gly Asp Tyr Gly Val Gly Ser Lys Asn Ser Lys Arg Ala Arg			
35	40	45	
Glu Lys Arg Asp Ser Arg Asn Met Glu Val Gln Val Thr Gln Glu Met			
50	55	60	
Arg Asn Val Ser Ile Gly Met Gly Ser Ser Asp Glu Trp Ser Asp Val			
65	70	75	80
Gln Asp Ile Ile Asp Ser Thr Pro Glu Leu Asp Met Cys Pro Glu Thr			
85	90	95	
Arg Leu Asp Arg Thr Gly Ser Ser Pro Thr Gln Gly Ile Val Asn Lys			
100	105	110	
Ala Phe Gly Ile Asn Thr Asp Ser Leu Tyr His Glu Leu Ser Thr Ala			
115	120	125	
Gly Ser Glu Val Ile Gly Asp Val Asp Glu Gly Ala Asp Leu Leu Gly			
130	135	140	
Glu Phe Ser Gly Met Gly Lys Glu Val Gly Asn Leu Leu Leu Glu Asn			
145	150	155	160
Ser Gln Leu Leu Glu Thr Lys Asn Ala Leu Asn Val Val Lys Asn Asp			
165	170	175	
Leu Ile Ala Lys Val Asp Gln Leu Ser Gly Glu Gln Glu Val Leu Arg			
180	185	190	
Gly Glu Leu Glu Ala Ala Lys Gln Ala Lys Val Lys Leu Glu Asn Arg			
195	200	205	
Ile Lys Glu Leu Glu Glu Glu Leu Lys Arg Val Lys Ser Glu Ala Ile			
210	215	220	
Ile Ala Arg Arg Glu Pro Lys Glu Glu Ala Glu Asp Val Ser Ser Tyr			
225	230	235	240
Leu Cys Thr Glu Ser Asp Lys Ile Pro Met Ala Gln Arg Arg Arg Phe			
245	250	255	
Thr Arg Val Glu Met Ala Arg Val Leu Met Glu Arg Asn Gln Tyr Lys			
260	265	270	
Glu Arg Leu Met Glu Leu Gln Glu Ala Val Arg Trp Thr Glu Met Ile			
275	280	285	
Arg Ala Ser Arg Glu His Pro Ser Val Gln Glu Lys Lys Lys Ser Thr			
290	295	300	
Ile Trp Gln Phe Phe Ser Arg Leu Phe Ser Ser Ser Ser Pro Pro			
305	310	315	320
Pro Ala Lys Arg Pro Tyr Pro Ser Val Asn Ile His Tyr Lys Ser Pro			
325	330	335	
Thr Thr Ala Gly Phe Ser Gln Arg Arg Asn His Ala Met Cys Pro Ile			
340	345	350	
Ser Ala Gly Ser Arg Pro Leu Glu Phe Phe Pro Asp Asp Asp Cys Thr			
355	360	365	
Ser Ser Ala Arg Arg Glu Gln Lys Arg Glu Gln Tyr Arg Gln Val Arg			
370	375	380	
Glu His Val Arg Asn Asp Asp Gly Arg Leu Gln Ala Cys Gly Trp Ser			
385	390	395	400
Leu Pro Ala Lys Tyr Lys Gln Leu Ser Pro Asn Gly Gly Gln Glu Asp			
405	410	415	
Thr Arg Met Lys Asn Val Pro Val Pro Val Tyr Cys Arg Pro Leu Val			
420	425	430	
Glu Lys Asp Pro Thr Met Lys Leu Trp Cys Ala Ala Gly Val Asn Leu			

435 440 445  
 Ser Gly Trp Arg Pro Asn Glu Asp Asp Ala Gly Asn Gly Val Lys Pro  
 450 455 460  
 Ala Pro Gly Arg Asp Pro Leu Thr Cys Asp Arg Glu Gly Asp Gly Glu  
 465 470 475 480  
 Pro Lys Ser Ala His Ala Ser Pro Glu Lys Lys Lys Ala Lys Glu Leu  
 485 490 495  
 Pro Glu Met Asp Ala Thr Ser Ser Arg Val Trp Ile Leu Thr Ser Thr  
 500 505 510  
 Leu Thr Thr Ser Lys Val Val Ile Ile Asp Ala Asn Gln Pro Gly Thr  
 515 520 525  
 Val Val Asp Gln Phe Thr Val Cys Asn Ala His Val Leu Cys Ile Ser  
 530 535 540  
 Ser Ile Pro Ala Ala Ser Asp Ser Asp Tyr Pro Pro Gly Glu Met Phe  
 545 550 555 560  
 Leu Asp Ser Asp Val Asn Pro Glu Asp Pro Gly Ala Asp Gly Val Leu  
 565 570 575  
 Ala Gly Ile Thr Leu Val Gly Cys Ala Thr Arg Cys Asn Val Pro Arg  
 580 585 590  
 Ser Asn Cys Ser Ser Arg Gly Asp Thr Pro Val Leu Asp Lys Gly Gln  
 595 600 605  
 Gly Glu Val Ala Thr Ile Ala Asn Gly Lys Val Asn Pro Ser Gln Ser  
 610 615 620  
 Thr Glu Glu Ala Thr Glu Ala Thr Glu Val Pro Asp Pro Gly Pro Ser  
 625 630 635 640  
 Glu Pro Glu Thr Ala Thr Leu Arg Pro Gly Pro Leu Thr Glu His Val  
 645 650 655  
 Phe Thr Asp Pro Ala Pro Thr Pro Ser Ser Gly Pro Gln Pro Gly Ser  
 660 665 670  
 Glu Asn Gly Pro Glu Pro Asp Ser Ser Ser Thr Arg Pro Glu Pro Glu  
 675 680 685  
 Pro Ser Gly Asp Pro Thr Gly Ala Gly Ser Ser Ala Ala Pro Thr Met  
 690 695 700  
 Trp Leu Gly Ala Gln Asn Gly Trp Leu Tyr Val His Ser Ala Val Ala  
 705 710 715 720  
 Asn Trp Lys Lys Cys Leu His Ser Ile Lys Leu Lys Asp Ser Val Leu  
 725 730 735  
 Ser Leu Val His Val Lys Gly Arg Val Leu Val Ala Leu Ala Asp Gly  
 740 745 750  
 Thr Leu Ala Ile Phe His Arg Gly Glu Asp Gly Gln Trp Asp Leu Ser  
 755 760 765  
 Asn Tyr His Leu Met Asp Leu Gly His Pro His His Ser Ile Arg Cys  
 770 775 780  
 Met Ala Val Val Tyr Asp Arg Val Trp Cys Gly Tyr Lys Asn Lys Val  
 785 790 795 800  
 His Val Ile Gln Pro Lys Thr Met Gln Ile Glu Lys Ser Phe Asp Ala  
 805 810 815  
 His Pro Arg Arg Glu Ser Gln Val Arg Gln Leu Ala Trp Ile Gly Asp  
 820 825 830  
 Gly Val Trp Val Ser Ile Arg Leu Asp Ser Thr Leu Arg Leu Tyr His  
 835 840 845  
 Ala His Thr His Gln His Leu Gln Asp Val Asp Ile Glu Pro Tyr Val  
 850 855 860  
 Ser Lys Met Leu Gly Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile

865		870		875		880									
Thr	Ala	Leu	Leu	Val	Ala	Gly	Ser	Arg	Leu	Trp	Val	Gly	Thr	Gly	Asn
				885					890					895	
Gly	Val	Val	Ile	Ser	Ile	Pro	Leu	Thr	Glu	Thr	Val	Val	Leu	His	Arg
			900						905				910		
Gly	Gln	Leu	Leu	Gly	Leu	Arg	Ala	Asn	Lys	Thr	Ser	Pro	Thr	Ser	Gly
		915						920					925		
Glu	Gly	Ala	Arg	Pro	Gly	Gly	Ile	Ile	His	Val	Tyr	Gly	Asp	Asp	Ser
	930					935					940				
Ser	Asp	Arg	Ala	Ala	Ser	Ser	Phe	Ile	Pro	Tyr	Cys	Ser	Met	Ala	Gln
945					950					955				960	
Ala	Gln	Leu	Cys	Phe	His	Gly	His	Arg	Asp	Ala	Val	Lys	Phe	Phe	Val
			965						970					975	
Ser	Val	Pro	Gly	Asn	Val	Leu	Ala	Thr	Leu	Asn	Gly	Ser	Val	Leu	Asp
		980							985				990		
Ser	Pro	Ala	Glu	Gly	Pro	Gly	Pro	Ala	Ala	Pro	Ala	Ser	Glu	Val	Glu
	995						1000					1005			
Gly	Gln	Lys	Leu	Arg	Asn	Val	Leu	Val	Leu	Ser	Gly	Gly	Glu	Gly	Tyr
	1010					1015					1020				
Ile	Asp	Phe	Arg	Ile	Gly	Asp	Gly	Glu	Asp	Asp	Glu	Thr	Glu	Glu	Gly
1025					1030					1035				1040	
Ala	Gly	Asp	Met	Ser	Gln	Val	Lys	Pro	Val	Leu	Ser	Lys	Ala	Glu	Arg
			1045						1050				1055		
Ser	His	Ile	Ile	Val	Trp	Gln	Val	Ser	Tyr	Thr	Pro	Glu			
		1060						1065							

&lt;210&gt; 4963

&lt;211&gt; 1575

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4963

ctcagaggact tctacggccc ctgcgccaag accagtgaga aggggcccta cttcctgacg  
60  
gagtacagca ctcaccagct cttcagccag ctcacgctgc tacagcagga gttgtttcaa  
120  
aagtgccacc cgggtccactt cctgaactca cgggccctgg gcgtcatgga caagagcact  
180  
gccatcccca aagccagctc ttctgagtct ctttcggcca aaacctgcag cttattttctg  
240  
cccaattacg ttcaggacaa gtatctgtta cagcttctaa gaaacgcaga tgacgtcagc  
300  
acctgggtgg ctgcagagat tgtgaccagc cacacctcca agctgcaggt gaacttgctg  
360  
tccaaatttn tgctgattgc aaaatcttgc tatgagcaga gaaacttcgc gacagccatg  
420  
cagatcctga gcgggctgga gcacctggcc gtgaggcagt cccctgcctg gagaattctg  
480  
cctgcaaaga tagcagaggt catggaggag ctgaaagccg tggaggtctt cctgaagagc  
540  
gacagcctgt gtctgatgga agggcggcgc ttccggggcg agcccaccct gccctcggcc  
600  
cacctcctgg ccatgcacat ccagcagctg gagacaggcg gcttcaccat gaccaacggg  
660

gccacaggt ggagcaagct caggaacatc gcaaaggtgg tgagccaggt gcacgcgttc  
 720  
 caggagaacc cttacacctt cagccccgac cccaagctcc agtcgtacct caagcagagg  
 780  
 attgcccgtc tcagcgggtg cgacatttcc aactcgcgcg cagatagcag ggccaacttc  
 840  
 caccaggtct ccagcgagaa gcactcacgg aagattcagg acaagctacg gaggatgaag  
 900  
 gctacattcc agtagccgag ctccgggcctg gtgtggaatt ccagatccga atccgactgt  
 960  
 gggggggcggg ctgggaggtg ggagccgcgt ctccaggcccg gccgttatca agggccctcc  
 1020  
 gcccccgaaac cctggggagc tggaccagga ggtggaggct caggggaccc catggggaca  
 1080  
 ggcagagctg gtctcctccc agcagacgga gccaggacgg gcacaagagt cttggagggt  
 1140  
 tgcgtgtttc tgctagaatt aaaaagttaa atttaaaaat gaaaatgaaa gacagcttcc  
 1200  
 caggagtttt gtgcctgtct gcgcctctca cacacagata agtggctctt acccagctct  
 1260  
 cagtgaactcc cccacaaaac agcaacagcc tccaccgcca actcaacaaa cttcagagta  
 1320  
 gctcctccct gagcagggtt ctgagccagc ctccggttggc tgagcaacga agggccaaag  
 1380  
 ctgacctctg agtggccaac tgcagctccc agggactccg agacctccg tccgagaccc  
 1440  
 tgcttgggtt cccccccac aaccagacc cagaaccgct ctcccttcc ctgcccagt  
 1500  
 cccctcttcc ccagcccaga ccccagggtg cccaaggcct gctgctggag caggcacctt  
 1560  
 gggctggggc tgctc  
 1575

<210> 4964

<211> 304

<212> PRT

<213> Homo sapiens

<400> 4964

Leu	Glu	Asp	Phe	Tyr	Gly	Pro	Cys	Ala	Lys	Thr	Ser	Glu	Lys	Gly	Pro
1				5					10					15	
Tyr	Phe	Leu	Thr	Glu	Tyr	Ser	Thr	His	Gln	Leu	Phe	Ser	Gln	Leu	Thr
			20					25					30		
Leu	Leu	Gln	Gln	Glu	Leu	Phe	Gln	Lys	Cys	His	Pro	Val	His	Phe	Leu
		35					40					45			
Asn	Ser	Arg	Ala	Leu	Gly	Val	Met	Asp	Lys	Ser	Thr	Ala	Ile	Pro	Lys
		50				55					60				
Ala	Ser	Ser	Ser	Glu	Ser	Leu	Ser	Ala	Lys	Thr	Cys	Ser	Leu	Phe	Leu
65				70					75					80	
Pro	Asn	Tyr	Val	Gln	Asp	Lys	Tyr	Leu	Leu	Gln	Leu	Leu	Arg	Asn	Ala
			85					90					95		
Asp	Asp	Val	Ser	Thr	Trp	Val	Ala	Ala	Glu	Ile	Val	Thr	Ser	His	Thr
		100					105					110			
Ser	Lys	Leu	Gln	Val	Asn	Leu	Leu	Ser	Lys	Phe	Xaa	Leu	Ile	Ala	Lys

```
<210> 4965
<211> 1474
<212> DNA
<213> Homo sapiens
```

4134

agacgtggaa ggagccagtg tccgcagccg tctcaggacg tcagagagct cggtggcctg  
 780  
 tctccagcag catgctctcc agatgcagcc tactgtcgct ctccacatag ggctgggtgca  
 840  
 gccacatgga caggtagctc aggggtgaggt cgggatcccc ggtgtgggca agctccttgg  
 900  
 ccaccgtgcg cttcaggagc agctccttcc tgtacatctc caagagctta tgcgaaacct  
 960  
 catagaaatg ggttgtaggc cacgtgtgga acagaggggg tcgtttactc tcctcccat  
 1020  
 aatggtagtt ttctagttca caaattccct tggtagttga agacagcttt tccattttca  
 1080  
 cctgtatttt ggtcaaccca tccaaggtgg cctgcagttc ctacacacagc ttctccagtt  
 1140  
 cctcgttata ttccagacac accttttctt cattttcctt cgaggctggg ctgctgctgt  
 1200  
 ctagtcttat cttgtcttta ttcaataaac tgattttcaa gttggcaata ttatttgcag  
 1260  
 tggtaaaacc tgcattcattg agggtttccc acttcaggat taaattgtgc caatcagccg  
 1320  
 cattgtcctt aatttttctt gcactgacag ataagacagg ttttctgggc gttacagttc  
 1380  
 caagagtctt tgcttccata aggtccacag atatccgtag aaggagctgc tcctgaagcg  
 1440  
 cacggtggac aggtagctca gggtagggtc gcga  
 1474

&lt;210&gt; 4966

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4966

Met	Glu	Ala	Lys	Thr	Leu	Gly	Thr	Val	Thr	Pro	Arg	Lys	Pro	Val	Leu
1				5					10					15	
Ser	Val	Ser	Ala	Arg	Lys	Ile	Lys	Asp	Asn	Ala	Ala	Asp	Trp	His	Asn
			20					25					30		
Leu	Ile	Leu	Lys	Trp	Glu	Thr	Leu	Asn	Asp	Ala	Gly	Phe	Thr	Thr	Ala
		35					40					45			
Asn	Asn	Ile	Ala	Asn	Leu	Lys	Ile	Ser	Leu	Leu	Asn	Lys	Asp	Lys	Ile
	50					55					60				
Glu	Leu	Asp	Ser	Ser	Ser	Pro	Ala	Ser	Lys	Glu	Asn	Glu	Glu	Lys	Val
65					70					75				80	
Cys	Leu	Glu	Tyr	Asn	Glu	Glu	Leu	Glu	Lys	Leu	Cys	Glu	Glu	Leu	Gln
				85					90					95	
Ala	Thr	Leu	Asp	Gly	Leu	Thr	Lys	Ile	Gln	Val	Lys	Met	Glu	Lys	Leu
			100					105					110		
Ser	Ser	Thr	Thr	Lys	Gly	Ile	Cys	Glu	Leu	Glu	Asn	Tyr	His	Tyr	Gly
		115					120					125			
Glu	Glu	Ser	Lys	Arg	Pro	Pro	Leu	Phe	His	Thr	Trp	Pro	Thr	Thr	His
	130						135				140				
Phe	Tyr	Glu	Val	Ser	His	Lys	Leu	Leu	Glu	Met	Tyr	Arg	Lys	Glu	Leu
145					150					155				160	
Leu	Leu	Lys	Arg	Thr	Val	Ala	Lys	Glu	Leu	Ala	His	Thr	Gly	Asp	Pro

	165		170		175
Asp	Leu Thr	Leu Ser Tyr	Leu Ser Met Trp	Leu His Gln	Pro Tyr Val
	180		185		190
Glu	Ser Asp	Ser Arg Leu His	Leu Glu Ser Met	Leu Leu Glu	Thr Gly
	195		200		205
His	Arg Ala	Leu			
	210				

<210> 4967  
 <211> 550  
 <212> DNA  
 <213> Homo sapiens

<400> 4967  
 nntttgttta tttattcatt tatttgagag accgggtctc actctgtcat ccaggtgga  
 60  
 atgctgtggc acaattatag ctactgcag cctcgaactc ctggcctcaa gcaatccttc  
 120  
 cgccttgacc tccaaaatag ctggngttac acgcgtgagc ccccatgccc agcttcccag  
 180  
 taagacattt attctgagga gttggctcac atgagtaagg aggctgagaa gttccacaat  
 240  
 ctgaacattc aggagaaagc tggatgatga atttggctctg agtcccaatg cctgagaacc  
 300  
 agagaagccg atggtataaa tcccagtgca aaggcaggag aagacccatg tcccagctca  
 360  
 gaaggcaggc aggaagcaaa aggggcaaat ttctccgtcc tctgcctctt ttttttctat  
 420  
 tcaggctctc agaggcttgg atgatgtcca ttcacattgg gcagggctag gtacttttct  
 480  
 gattccaccg actgaaatac taatctcatc cagaaacacc tgcacagaca cacaataaaa  
 540  
 tgtttaatct  
 550

<210> 4968  
 <211> 51  
 <212> PRT  
 <213> Homo sapiens

	1		5		10		15
Glu	Thr Gly	Ser His	Ser Val	Ile Gln	Ala Gly	Met Leu	Trp His Asn
	1		5		10		15
Tyr	Ser Ser	Leu Gln	Pro Arg	Thr Pro	Gly Leu	Lys Gln	Ser Phe Arg
	20		25		30		
Leu	Asp Leu	Gln Asn	Ser Trp	Xaa Tyr	Thr Arg	Glu Pro	Pro Cys Pro
	35		40		45		
Ala	Ser Gln						
	50						

<210> 4969  
 <211> 2911  
 <212> DNA  
 <213> Homo sapiens



<400> 4969  
ccaanntcac tttctaccct gagccctacc cgctcgtcta tggccccag ctccttgccg  
60  
cctaccctta caacttcagt aacttggccg ctcccggttg ctctcaacat ggtcctacct  
120  
gatgagaagg gtgcgggggc ccttcccttc ctaccagggg tctttggcta cgcagtgaat  
180  
cctcaagcag cccccctgc cccaccaaca ccacctcccc caactcttcc tccaccaatt  
240  
ccccctaagg gagaagggga aagggcaggg gttgagagaa ccagaaggg cgatgtgggg  
300  
ntgaacctg gggctcaatc cccctttcac cagatgccac cctccctgaa cccccacca  
360  
ctaccagctc cctggcctcc ctgccccttg ggagcccctt cacactcttg tgcagggact  
420  
tgggggcccc tggagctcag gggtcaggct gctttgtgtg agatgtagtt tccccatctc  
480  
ctgggaaggg atctttcgag gttcccctct cagtcttctt ccagggaatg gcctccatga  
540  
ggggcagggc cagcttccat cccttctcca gcccttgggg caactgagca atatacttaa  
600  
cctgaatctc tactcacagc ccccaccagc tctgaatgtc taacctgctc ccctgattcg  
660  
taaacctagg ggaaaccatc tctctcacct aatgaccgc cttgttctga agctttctct  
720  
aagcccttcc cagttgcttc ctagcacatt ccattctttg tggcccaggg ctggaccaga  
780  
ccattgtgat acctgacccc gccacctgg gagtgtggct ttgggtttca tcttcccca  
840  
gcgtgggtct ctacgtccct gttcccttg tatcaagaca ccttctcag cttccatgcc  
900  
tttggatctt ccattgttct ccccatattc ctggacttcg gagatggcct ctcccaagcc  
960  
aggtcaagga ggtttggggg agggttgcc ctctgcccct ctgttctgtg gctgagcact  
1020  
tccccagtcc agggcagga aatattggcc ctatcttgac ccccaaacc agtgagctcc  
1080  
agattcttcc aaggcaaaag aggtaagcag atcacacctc tttctgcctc tacatatggc  
1140  
ctattctggg ctagaccaga tttgggggcc aggagggaag aactccatat gggatggaga  
1200  
agggaatcta ctttctccct gtgtttttt cctgatggtt tctcccagac tagaccaa  
1260  
agccagaaaa atgatagggg tcggatgggt gggtaagccc aggatttgca catgacctc  
1320  
catccttacc tgtattccca tctcccagc gtcactcccc tcaccaatca ctccagatgg  
1380  
ttttggggga accattctac tcttctgtg ggctttgggg tatccccacc aactttccct  
1440  
tcaaaatagc accttacacc ccattcttga ctacgttccc cacacccaaa gatccagcc  
1500  
tagggatggg gtacagggac tttaaatagt ccctaacc taatttgac tagttaacc  
1560

tggtcagggg ccctgtattt ccttccagtg ggggagataa atgtttgctc ctaattctct  
 1620  
 ttgaaaactg ggcctccctg ctctgtgatt ggataaatat ttcccatccc acccacctcc  
 1680  
 ccccaaaaaa tagctcaciaa ggggagagcc agtatggggg agcaaatttg acaaatggga  
 1740  
 attagaggag tgcagtttta aaaggaaaag ttgctgtcat caaaatggca gccttttccc  
 1800  
 cagctactgt ttttggggcc aagatggctg ccctagcagc aatcactgcc aagggaaga  
 1860  
 tcatggcttt tggagggagg tgagtttagg gagggccagg accatcctcc taccctcat  
 1920  
 accctcccag catatacaaa aggggaggtt ttagacaggc tccctgaatg ttaaccacag  
 1980  
 aggagtcaact ccttcattcc tcctctgtct ctttgcaact ttcttggctt tggccacagc  
 2040  
 ctgagtgcag aatttcctac tgaatgtacc aagttccaat ttttaagggg gggaaaggtt  
 2100  
 tcaaatgggg aaaaacacac aaaaaaaaaa tcactaaaaa tcccacaaa tcttgtttct  
 2160  
 ggcacttttag aaaaactgca aaaaaatacg taataaagaa tacatatata tatatctaca  
 2220  
 cacaattat atatctatct atctatacag cggaaccaca agagagactg aggaaggcct  
 2280  
 ggaggcaggg gcagaggtga cgacagtgcc cctatatcct taaccatac tcctctgagg  
 2340  
 caaacaggca tgggaaaatg gaagggttga ggatggaccg gagaattgga acttcagaat  
 2400  
 aggtcaaaat tccaaaacca tggacatttt tttttgggag aattgagatt gtagacattt  
 2460  
 tttttttctt aaatatgatc aaggaaaata gcttccagaa tgtggtggtt ctgggcaaca  
 2520  
 aatgagattg tggcgacgtg gagattaataa tatatgtatt tgagctgggg aatttgaata  
 2580  
 ttgtgagttt cagatgttgg aaatttggga ttttgcagtt ttgtcttttg aaaatgatca  
 2640  
 agtcttgtca gtctgtgccc tctttcccca tgttccctgg gaagacgggt ggtggcagag  
 2700  
 tgagaaggcc actggttctg tgccgcagca cgcaaaattt agaattctac agactagctc  
 2760  
 tatacgtagt gaggacccag atttagagaa actgaccaat atttatctcc gcatttgtgt  
 2820  
 gtgtgtccaa ctctgtaggc caataaacca acaagacaaa tgaactgtgc tccaaaaaaa  
 2880  
 aaaaaaaaaa aatgtctaca atctcaattc t  
 2911

&lt;210&gt; 4970

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4970

Pro Xaa Ser Leu Ser Thr Leu Ser Pro Thr Arg Ser Ser Met Ala Pro

1	5	10	15
Ser Ser Leu Pro Pro Thr Leu Thr Thr Ser Val Thr Trp Pro Leu Pro			
20	25	30	
Val Ala Leu Asn Met Val Leu Pro Asp Glu Lys Gly Ala Gly Ala Leu			
35	40	45	
Pro Phe Leu Pro Gly Val Phe Gly Tyr Ala Val Asn Pro Gln Ala Ala			
50	55	60	
Pro Pro Ala Pro Pro Thr Pro Pro Pro Pro Thr Leu Pro Pro Pro Ile			
65	70	75	80
Pro Pro Lys Gly Glu Gly Glu Arg Ala Gly Val Glu Arg Thr Gln Lys			
85	90	95	
Gly Asp Val Gly Xaa Asn Pro Gly Ala Gln Ser Pro Phe His Gln Met			
100	105	110	
Pro Pro Ser Leu Asn Pro Pro Pro Leu Pro Ala Pro Trp Pro Pro Cys			
115	120	125	
Pro Leu Gly Ala Pro Ser His Ser Cys Ala Gly Thr Trp Gly Pro Leu			
130	135	140	
Glu Leu Arg Gly Gln Ala Ala Leu Cys Glu Met			
145	150	155	

&lt;210&gt; 4971

&lt;211&gt; 2939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4971

gaagaacctc gtctgcggag gaaaaggtag atgttaaattg gtaactacgc gcgaggttct  
 60  
 gagagaccct gggaacagga aggagaaaag aataccaaaa gtgacaacag tttgccaatc  
 120  
 gcagtcttta atctgataaa gcggttatct cgtcttgagt cccaggtgcc gactcaatcc  
 180  
 ccatacacag ccgccgccat tgctctgagt ccttggtgtct gactgtctgt tctgtctgt  
 240  
 gtatgacaca gcacctcgag gcaaggaaat aagaaaactg cctctgatcc aagcagagaa  
 300  
 ggtcagtgag aaggtctgcc tgtagatctg ctgtagggtt tgtcaccatt ggaagcaagg  
 360  
 tcttacttca gtggcagatc tgggtggcctt ggagtggctg aagaccacca ccctccacag  
 420  
 ggctggggcc atgcacagcc atccttcctt accttgagtg agcttcctct gcatgttttc  
 480  
 tatatcactg gcagagcctg tagttggaaa ggggacagag tgactactgg actttgtgtg  
 540  
 aaaacaccaa ccgggacaaa acttcagtca aggctgagac ggggtgggggt atataacttg  
 600  
 tcttacgtt aaacttgaa catggttgac tctgggacag aagcaagggc tagaggaaag  
 660  
 gctgaggctg gcctgcaaga tggaatcagt ggtcctgcca ctgctagagt gaatggtaaa  
 720  
 acccaggccg aggcagtggc tgaggcagaa ctgaaaacag aatcagtgaac ccaggccaaa  
 780  
 gctggtgatg gagcaatgac caggacacat acagtgaact acagggaggc tatggctgtg  
 840

acaaggggaag tgatcaaggt ggaagataca actaagacta gagtcatggt tgagactaag  
900  
acaaaacccc tggcagaacg cagtatagtg ccacaaacca agtcaaaggc catgcctatg  
960  
tctaggggtca gtactgtaac caagtctgaa gtcaagggtg ttgctgtcat tgaggcaaatt  
1020  
attaggtcct atgccaaagtc acatgataag gccaaactg ggtccagacc tgacagaagg  
1080  
gaagagacca gcattgggat gaaatccagt gatgaggatg aagaaaatat atgctcctgg  
1140  
ttctggactg gagaagagcc tagtgtaggg tcttggttct ggcctgaaga agagacctct  
1200  
cttcaagttt ataagccct acctaagatc caggaaaagc ccaagcccac acacaaaccc  
1260  
acacttacta taaaacaaaa ggtaatagca tggtaagggt ccaggatatat tgtcctagtt  
1320  
ccagttgaag gaggggagca atccttgctt ccagaaggaa actggaccct ggttgagacc  
1380  
ttgattgaaa ctctctggg gattcgacct ttgaccaaga tcccacctta tcatgggcct  
1440  
tattaccaga ccttagctga gatcaaaaaa cagattaggc aaagggaata gtatgggcct  
1500  
aatccgaagg cctgccactg caaatcacgt ggctttagtt tagagcctaa agagtttgat  
1560  
aaacttggtg ccctccttaa gttaactaag gatcctttca ttcattgaaat agctacaatg  
1620  
ataatgggca tcagtcctgc ttatccattt actcaagata taattcatga tgtaggtatt  
1680  
actgttatga ttgaaaactt ggtcaataat cccaatgtta aagaacaccc tggagcttta  
1740  
agtatggtgg atgacagctc tgagtcttcc gaagaaccaa aatcagggga gtcatatata  
1800  
catcaagttt gtaaaggcat aatctcttgc cccttgaact ccctgtgca gctggctgga  
1860  
ctgaaattac tagggcactt gagtataaaa tttgaagatc actatgtgat taccagttat  
1920  
attccagatt tcttcacctt gttaacaag ggaagtgtca aaaccaagtt ttatgtttta  
1980  
aaagtgtttt cgtgtttgtc taaaaatcac gccaatataa gagaattgat cagtgccaaa  
2040  
gtactgtcat cattgggtgc accctttaac aagaatgagt caaaggccaa tattcttaat  
2100  
attattgaaa tatttgagaa tataaatttt cagttcaaaa caaaggcaaa gctatttacc  
2160  
aaggaaaagt tcaactaaatc tgagcttatt tcaatattcc aggaagcaaa acagtttggt  
2220  
cagaaactcc aagacttagc agagcacagt gatcccgaag tgagagataa agtcatacga  
2280  
ttaatactaa aactctgaat acccctctgt tctcataaag cctcaaacag ttttttgag  
2340  
ttgcaatatg aaaccaatgc atattgtaat tataaattca atacttatgt tttccatgtt  
2400  
gattgagggg ggcaatttta tggataccaa ttaatcttga gatcctgaac atgtgctgat  
2460

ttttattgtg ctatatagta tataaattga gatatttttg gtatttctgc aacgtgacct  
 2520  
 gataatgaat ctattcatcc tgagtaagct atacttctgt gctttatatt gatattgtga  
 2580  
 ttcttttgag attttattta catgttggtta ataaagttgc atgctaaaac tgggtgaaaat  
 2640  
 attgtcctag ttcttcagct gaaatctagt ctgggggggat aaagcacaga gagcataaag  
 2700  
 atgggtgaaga aactgacctg tgtgtctgta gtggggcaca aacaaaacaa gttcacattg  
 2760  
 acagattatt tagtttcgac atacttaaaa agtagaatca ctctatgcaa gaaggcagga  
 2820  
 ctgtgctatt agttgtctgt aggtccttac tgataggggt tcaaatgagg aatgaagccc  
 2880  
 tatctgggca gctctgggga agggagtaag gaggaagga atacagatgc tttcattgt  
 2939

<210> 4972

<211> 558

<212> PRT

<213> Homo sapiens

<400> 4972

Met	Val	Asp	Ser	Gly	Thr	Glu	Ala	Arg	Ala	Arg	Gly	Lys	Ala	Glu	Ala
1				5					10					15	
Gly	Leu	Gln	Asp	Gly	Ile	Ser	Gly	Pro	Ala	Thr	Ala	Arg	Val	Asn	Gly
			20					25					30		
Lys	Thr	Gln	Ala	Glu	Ala	Val	Ala	Glu	Ala	Glu	Leu	Lys	Thr	Glu	Ser
			35				40					45			
Val	Thr	Gln	Ala	Lys	Ala	Gly	Asp	Gly	Ala	Met	Thr	Arg	Thr	His	Thr
			50				55					60			
Val	Thr	Tyr	Arg	Glu	Ala	Met	Ala	Val	Thr	Arg	Glu	Val	Ile	Lys	Val
65					70					75				80	
Glu	Asp	Thr	Thr	Lys	Thr	Arg	Val	Met	Val	Glu	Thr	Lys	Thr	Lys	Pro
				85					90					95	
Leu	Ala	Glu	Arg	Ser	Ile	Val	Pro	Gln	Thr	Lys	Ser	Lys	Ala	Met	Pro
				100				105					110		
Met	Ser	Arg	Val	Ser	Thr	Val	Thr	Lys	Ser	Glu	Val	Lys	Val	Val	Ala
				115			120					125			
Val	Ile	Glu	Ala	Asn	Ile	Arg	Ser	Tyr	Ala	Lys	Ser	His	Asp	Lys	Ala
				130			135					140			
Asn	Thr	Gly	Ser	Arg	Pro	Asp	Arg	Arg	Glu	Glu	Thr	Ser	Ile	Gly	Met
145					150					155				160	
Lys	Ser	Ser	Asp	Glu	Asp	Glu	Glu	Asn	Ile	Cys	Ser	Trp	Phe	Trp	Thr
				165				170					175		
Gly	Glu	Glu	Pro	Ser	Val	Gly	Ser	Trp	Phe	Trp	Pro	Glu	Glu	Glu	Thr
			180				185					190			
Ser	Leu	Gln	Val	Tyr	Lys	Pro	Leu	Pro	Lys	Ile	Gln	Glu	Lys	Pro	Lys
			195				200					205			
Pro	Thr	His	Lys	Pro	Thr	Leu	Thr	Ile	Lys	Gln	Lys	Val	Ile	Ala	Trp
			210				215					220			
Ser	Arg	Ala	Arg	Tyr	Ile	Val	Leu	Val	Pro	Val	Glu	Gly	Gly	Glu	Gln
225					230					235				240	
Ser	Leu	Pro	Pro	Glu	Gly	Asn	Trp	Thr	Leu	Val	Glu	Thr	Leu	Ile	Glu

245 250 255  
 Thr Pro Leu Gly Ile Arg Pro Leu Thr Lys Ile Pro Pro Tyr His Gly  
 260 265 270  
 Pro Tyr Tyr Gln Thr Leu Ala Glu Ile Lys Lys Gln Ile Arg Gln Arg  
 275 280 285  
 Glu Lys Tyr Gly Pro Asn Pro Lys Ala Cys His Cys Lys Ser Arg Gly  
 290 295 300  
 Phe Ser Leu Glu Pro Lys Glu Phe Asp Lys Leu Val Ala Leu Leu Lys  
 305 310 315 320  
 Leu Thr Lys Asp Pro Phe Ile His Glu Ile Ala Thr Met Ile Met Gly  
 325 330 335  
 Ile Ser Pro Ala Tyr Pro Phe Thr Gln Asp Ile Ile His Asp Val Gly  
 340 345 350  
 Ile Thr Val Met Ile Glu Asn Leu Val Asn Asn Pro Asn Val Lys Glu  
 355 360 365  
 His Pro Gly Ala Leu Ser Met Val Asp Asp Ser Ser Glu Ser Ser Glu  
 370 375 380  
 Glu Pro Lys Ser Gly Glu Ser Tyr Ile His Gln Val Cys Lys Gly Ile  
 385 390 395 400  
 Ile Ser Cys Pro Leu Asn Ser Pro Val Gln Leu Ala Gly Leu Lys Leu  
 405 410 415  
 Leu Gly His Leu Ser Ile Lys Phe Glu Asp His Tyr Val Ile Thr Ser  
 420 425 430  
 Tyr Ile Pro Asp Phe Leu Thr Leu Leu Asn Lys Gly Ser Val Lys Thr  
 435 440 445  
 Lys Phe Tyr Val Leu Lys Val Phe Ser Cys Leu Ser Lys Asn His Ala  
 450 455 460  
 Asn Thr Arg Glu Leu Ile Ser Ala Lys Val Leu Ser Ser Leu Val Ala  
 465 470 475 480  
 Pro Phe Asn Lys Asn Glu Ser Lys Ala Asn Ile Leu Asn Ile Ile Glu  
 485 490 495  
 Ile Phe Glu Asn Ile Asn Phe Gln Phe Lys Thr Lys Ala Lys Leu Phe  
 500 505 510  
 Thr Lys Glu Lys Phe Thr Lys Ser Glu Leu Ile Ser Ile Phe Gln Glu  
 515 520 525  
 Ala Lys Gln Phe Gly Gln Lys Leu Gln Asp Leu Ala Glu His Ser Asp  
 530 535 540  
 Pro Glu Val Arg Asp Lys Val Ile Arg Leu Ile Leu Lys Leu  
 545 550 555

&lt;210&gt; 4973

&lt;211&gt; 3555

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4973

gcgagggtga caggaaaccc tgtgcaggga gcgccgccat cttggaccag cccgaggaag  
 60  
 atactgaggg agcacaggag cagtcaccgc tgccactgct actgccgcta ctgctgccgg  
 120  
 cgcgtctgca cctctcggcc tgccagtgtta cctgccggcg cctcggtcga ccgccccgc  
 180  
 cccctctccc gctgcgtccg cactcctgtt cctggctctg acgccccct cccgccccga  
 240

aagctgceca gccaccagca acccccagct gccaccatgg caactgcacc atacaactac  
300  
tcttacatct ttaaatatat tattattggg gacatgggag taggaaaatc ttgcttgctt  
360  
catcaattta cagaaaaaaaa atttatggct gattgtcctc acacaattgg tgttgaattt  
420  
ggtacaagaa taatcgaagt tagtggccaa aaaataaaac tgcagatttg ggatacggca  
480  
ggacaggagc gatttagggc tggtacacgg agctactaca gaggagctgc gggagctctt  
540  
atggtctatg atatcactag aagaagtaca tataaccact taagcagctg gttgacagat  
600  
gcaaggaatc tcaccaatcc aaatactgta ataattctca taggaaataa agcagatttg  
660  
gaggcacaga gagatgttac atatgaagaa gccaaacagt ttgctgaaga aaatggctta  
720  
ttgttcctcg aagcagtgctg aaaaacggga gagaatgtag aagatgcctt ccttgaggct  
780  
gccaaagaaa tctatcagaa cattcaggat ggaagcttgg atctgaatgc tgctgagtct  
840  
ggtgtacaac acaaaccttc agccccgcag ggaggccggc taaccagtga accccaaccc  
900  
cagagagaag gctgtggctg ctagtgacct ctttgcctg gcccctcatt tgacctttca  
960  
cctctgtctg ttggaagcag tactttttac tgcctcattg tcttctgtac atcttactgg  
1020  
gtttaattaa aaaaaagaa aaaactctgt tgtaaaaaca gtttaacaca atactaaact  
1080  
gctaaacaac tagatgtaat cagggttatca aaggcaagta gagtaataaa tctctcctgc  
1140  
atggtaaate tagacttttt tcccccttg tctcgtgat aagtatgtca ccaatatatg  
1200  
atttaaaccg agcactgatg ctggacttca tgatttttac cctcccttg gcaaggcttt  
1260  
gtctcactgt acggtttaat ttggtgatat ctttaagcctt tcttcccatc cttaactggt  
1320  
caagtatgtc tggtgtaacc aataagttta ttgctgtgaa attacttctg atggtagaga  
1380  
aggggttcta taactgcttt tggtttggtt tggataaatt tcctgttggtg tgggtggcat  
1440  
ttttcttaac gagatttgct tctgtcttag cctcacacag ggaaaatate catttatctt  
1500  
ctctctctg cttaattaat agctttatct ttttttatac cattttatcc ttttctcttt  
1560  
aacagaaagt aaatatgtat aaaatttgaa ggaatcgaac taacaatata ttctgtgtat  
1620  
attattttta tgaagaaaat aaattgatta ctggcattgg aacagtataa aataccagtt  
1680  
tgtacagtat gacctatatg tgaccatggt actcccttcc atttcacaca aagaaataga  
1740  
cacaactgca gttcacaagt agtactggct ccacccttg gtgctggcag tgtttgggga  
1800  
cattatgctg gaaagagctc ctagcatcag aggattaaca ctagcagatt ctgttccatc  
1860

tttgcaactgt tgcctaacctg ctgattttct taactgttct tgtgcaatcg acaatgtgct  
1920  
aacctgcttt tctctttttg taaacgtttt tgcattacag gctgcattct tgccttactg  
1980  
tatagaaaaa gaaaaaaggc tgggtttact attgcacatt ttaagctttt atacctttat  
2040  
cttcttgga tggtcagatt ctgaactgga cagtcagaac cacaggtctg ctgttaaggg  
2100  
attttaaatt gtgcattttt aaccctacag tgaaataact taagatatcc ctgtgttcac  
2160  
agtgtgaggg gctgttttat gtcatgttgg cataaattgt tttgtaaaag ggaaagtgtt  
2220  
tctaaagggtg tttcagcgct tgtgctgata caaagtaagt tattactttg caccaggtgg  
2280  
tttggccact gaattaatac tgtatagcaa gagaaacaat cttatttttt tggacaacat  
2340  
gttttattaa gttcttcatt tctgttgatt ttttttattg catttatgat tcagtggctg  
2400  
ggaattgaga atttatttga aatagaatag gtaacacctc agcgtactat agaaaatgca  
2460  
ctcagctcaa ctgctgtgtt taaaatacac attttaaate cctctttaca gacactaaca  
2520  
taaaagtaca tctttctggg ttgtaaacat gtggtagtac cagagtattg tatagtcaat  
2580  
gttaataaaa agccaaaact ggaatgtgca gaaagtaggc tttggttaat ttgtggattc  
2640  
atttttattt ttgtctttgt ttaacttttt aaaaaataag atttctggag tagattggta  
2700  
tattctgtta aagacttaca gtgatccatt ttgcttacac tgttgcatca caagggactc  
2760  
accaggggac catgacctgc tgggtgtgtg gtatatattac aaaaacaaaa caaacaaacc  
2820  
accattggg atataaggta gcaatcacia actaaagact gcggcttgtt gaggtgcaat  
2880  
accctgactc ccaaagttag ttacagtggg ttttattgtt tttgtgactg aaggatttat  
2940  
tcagactgct gtactcttca tttgatgtaa caaaatgcta ttaatctaaa ttttgtaaa  
3000  
taaagtacct gtatctagat taaattaaaa ttgggtgcat tattttctga actataatag  
3060  
ggtttttctt cagggtgaaca atttgacgtg tcatcagttt ttattgcagc actgtccata  
3120  
ttcattgtat aaagagaggt ctacgtatgt agcatataaa accacatcac taagtaatag  
3180  
accacagct ttattcttgt gtttacatta cccttgaaat gttttcagtc aacccttttc  
3240  
agtgtaatat cagcacattt ggtggctgat gctgttctcc tttgactgta cggggagcca  
3300  
gattctatca tatgcatgtg taatccccctg taatacactc aggtgctcac aaatagagca  
3360  
gattgtcata ttgtaacatg cgtgtgccag acaccgggca gtacactttg gaaagaatgt  
3420  
gaaatccttt taatttttaa tccatagctt actgcttgtg cagtcacctg cctctcgagg  
3480



ttgctcattg cccttgacc tgtgaggagg ccctcagatt agtaattggt gcttagtact  
 3540  
 atttatgctt aaatg  
 3555

<210> 4974  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 4974  
 Met Ala Thr Ala Pro Tyr Asn Tyr Ser Tyr Ile Phe Lys Tyr Ile Ile  
 1 5 10 15  
 Ile Gly Asp Met Gly Val Gly Lys Ser Cys Leu Leu His Gln Phe Thr  
 20 25 30  
 Glu Lys Lys Phe Met Ala Asp Cys Pro His Thr Ile Gly Val Glu Phe  
 35 40 45  
 Gly Thr Arg Ile Ile Glu Val Ser Gly Gln Lys Ile Lys Leu Gln Ile  
 50 55 60  
 Trp Asp Thr Ala Gly Gln Glu Arg Phe Arg Ala Val Thr Arg Ser Tyr  
 65 70 75 80  
 Tyr Arg Gly Ala Ala Gly Ala Leu Met Val Tyr Asp Ile Thr Arg Arg  
 85 90 95  
 Ser Thr Tyr Asn His Leu Ser Ser Trp Leu Thr Asp Ala Arg Asn Leu  
 100 105 110  
 Thr Asn Pro Asn Thr Val Ile Ile Leu Ile Gly Asn Lys Ala Asp Leu  
 115 120 125  
 Glu Ala Gln Arg Asp Val Thr Tyr Glu Glu Ala Lys Gln Phe Ala Glu  
 130 135 140  
 Glu Asn Gly Leu Leu Phe Leu Glu Ala Ser Ala Lys Thr Gly Glu Asn  
 145 150 155 160  
 Val Glu Asp Ala Phe Leu Glu Ala Ala Lys Lys Ile Tyr Gln Asn Ile  
 165 170 175  
 Gln Asp Gly Ser Leu Asp Leu Asn Ala Ala Glu Ser Gly Val Gln His  
 180 185 190  
 Lys Pro Ser Ala Pro Gln Gly Gly Arg Leu Thr Ser Glu Pro Gln Pro  
 195 200 205  
 Gln Arg Glu Gly Cys Gly Cys  
 210 215

<210> 4975  
 <211> 1111  
 <212> DNA  
 <213> Homo sapiens

<400> 4975  
 aatataatct gttgtctgac aggcatttcc cagaccctct tgcctccagt gagaaggaga  
 60  
 acactcagcc ctttgtggtc ctgcccagg aattcccagt gtacctgtgg cagcccttct  
 120  
 tcagacacgg ctacttctgc ttccacgagg ctgctgacca gaagagggtt agtgcctcc  
 180  
 tgagtgactg cgtcaggcat ctcaatcatg attacatgaa gcagatgaca tttgaagccc  
 240

aggccttttt agaagctgtg caattcttcc gacaggagaa gggtcactat ggttcctggg  
 300  
 aaatgatcac tggggatgaa atccagatcc tgagtaacct ggtgatggag gagctcctgc  
 360  
 ccactcttca gacagacctg ctgcctaaga tgaaggggaa gaagaatgac agaaagagga  
 420  
 cgtggcttgg tctcctcgag gaggcctaca ccttgggtca gcatcaagtt tcagaaggat  
 480  
 taagtgcctt gaaggaggaa tgcagagctc tgacaaaggg cctggaagga acgatccgtt  
 540  
 ctgacatgga tcagattgtg aactcaaaga actatttaat tggaaagatc aaagcgatgg  
 600  
 tggcccagcc ggcgagagaa agctgcttgg agagtgtgca gccattcctg gcatccatcc  
 660  
 tggaggagct catgggacca gtgagctcgg gattcagtga agtacgtgta ctctttgaga  
 720  
 aagaggtgaa tgaagtcagc cagaacttcc agaccaccaa agacagtgtc cagctaaagg  
 780  
 agcatctaga ccggcttatg aatcttccgc tgcattccgt gaagatggaa ccttgttata  
 840  
 ctaaagtcaa cctgcttcac gagcgctgc aggatctcaa gagccgcttc agattcccc  
 900  
 acattgatct ggtgggtcag aggacacaga actacatgca ggagctaata gagaatgcag  
 960  
 tgttcacttt tgagcagttg ctttccccac atctccaagg agaggcctcc aaaactgcac  
 1020  
 tttccattga gaagggtaaa ctccgagtct taaagcaata tgattatgac agcagcacca  
 1080  
 tccgaaagaa gatatttcaa gaggcactag t  
 1111

&lt;210&gt; 4976

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4976

Met	Lys	Gln	Met	Thr	Phe	Glu	Ala	Gln	Ala	Phe	Leu	Glu	Ala	Val	Gln
1				5				10					15		
Phe	Phe	Arg	Gln	Glu	Lys	Gly	His	Tyr	Gly	Ser	Trp	Glu	Met	Ile	Thr
		20					25				30				
Gly	Asp	Glu	Ile	Gln	Ile	Leu	Ser	Asn	Leu	Val	Met	Glu	Glu	Leu	Leu
	35					40				45					
Pro	Thr	Leu	Gln	Thr	Asp	Leu	Leu	Pro	Lys	Met	Lys	Gly	Lys	Lys	Asn
	50				55			60							
Asp	Arg	Lys	Arg	Thr	Trp	Leu	Gly	Leu	Leu	Glu	Glu	Ala	Tyr	Thr	Leu
65				70				75				80			
Val	Gln	His	Gln	Val	Ser	Glu	Gly	Leu	Ser	Ala	Leu	Lys	Glu	Glu	Cys
		85					90				95				
Arg	Ala	Leu	Thr	Lys	Gly	Leu	Glu	Gly	Thr	Ile	Arg	Ser	Asp	Met	Asp
	100					105				110					
Gln	Ile	Val	Asn	Ser	Lys	Asn	Tyr	Leu	Ile	Gly	Lys	Ile	Lys	Ala	Met
	115					120				125					
Val	Ala	Gln	Pro	Ala	Glu	Lys	Ser	Cys	Leu	Glu	Ser	Val	Gln	Pro	Phe

130                      135                      140  
 Leu Ala Ser Ile Leu Glu Glu Leu Met Gly Pro Val Ser Ser Gly Phe  
 145                      150                      155                      160  
 Ser Glu Val Arg Val Leu Phe Glu Lys Glu Val Asn Glu Val Ser Gln  
                     165                      170                      175  
 Asn Phe Gln Thr Thr Lys Asp Ser Val Gln Leu Lys Glu His Leu Asp  
                     180                      185                      190  
 Arg Leu Met Asn Leu Pro Leu His Ser Val Lys Met Glu Pro Cys Tyr  
                     195                      200                      205  
 Thr Lys Val Asn Leu Leu His Glu Arg Leu Gln Asp Leu Lys Ser Arg  
                     210                      215                      220  
 Phe Arg Phe Pro His Ile Asp Leu Val Val Gln Arg Thr Gln Asn Tyr  
 225                      230                      235                      240  
 Met Gln Glu Leu Met Glu Asn Ala Val Phe Thr Phe Glu Gln Leu Leu  
                     245                      250                      255  
 Ser Pro His Leu Gln Gly Glu Ala Ser Lys Thr Ala Phe Ser Ile Glu  
                     260                      265                      270  
 Lys Val Lys Leu Arg Val Leu Lys Gln Tyr Asp Tyr Asp Ser Ser Thr  
                     275                      280                      285  
 Ile Arg Lys Lys Ile Phe Gln Glu Ala Leu  
                     290                      295

&lt;210&gt; 4977

&lt;211&gt; 3309

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4977

nnaaaggaag ggagggaggg agaaaggaga agttgggttta gaggccagcc ggacgagctt  
 60  
 tgggcaccgc ccttaggagg gccaccctca gagtctgaca gcaggtgaag gtcctaaatc  
 120  
 tccccaaact aactggtgtc ttttctcctc ttccaagatg ctcttcccga gggagatgct  
 180  
 agccctttgg gtccttacct cctgccctca ggagccccgg agagaggcag tcctggcaaa  
 240  
 gagcaccctg aagagagagt ggtaacagcg cccccagtt cctcacagtc ggcggaagtg  
 300  
 ctgggcgagc tgggtgctgga tgggaccgca ccctctgcac atcacgacat cccagccctg  
 360  
 tcaccgctgc ttccagagga ggcccgcccc aagcacgcct tgccccccaa gaagaaactg  
 420  
 ccttcgctca agcaggtgaa ctctgccagg aagcagctga ggcccaaggc cacctccgca  
 480  
 gccactgtcc aaagggcagg gtcccagcca gcgtcccagg gcctagatct cctctcctcc  
 540  
 tccacggaga agcctggccc accgggggac ccggaccca tcgtggcctc cgaggaggca  
 600  
 tcagaagtgc ccctttggct ggaccgaaag gagagtgcgg tcctacaac acccgacccc  
 660  
 ctgcaaactc ccccttcac ttgcgagccc tatgtggccc acacactccc ccagaggcca  
 720  
 gaacccgggg agcctgggccc tgacatggcc caggaggccc cccaggagga caccagcccc  
 780

atggccctga tggacaaagg tgagaatgag ctgactgggt cagcctcaga ggagagccag  
840  
gagaccacta cctccaccat tatcaccacc acggtcatca ccaccgagca ggcaccagct  
900  
ctctgcagtg tgagcttctc caatcctgag gggtagattg actccagcga ctaccactg  
960  
ctgcccctca acaactttct ggagtgcaca tacaacgtga cagtctacac tggctatggg  
1020  
gtggagctcc aggtgaagag tgtgaacctg tccgatgggg aactgctctc catccgcggg  
1080  
gtggacggcc ctaccctgac cgtcctggcc aaccagacac tcctgggtgga ggggcaggta  
1140  
atccgaagcc ccaccaacac catctccgtc tacttccgga ccttccagga cgacggcctt  
1200  
gggaccttcc agcttcaacta ccaggccttc atgctgagct gcaactttcc ccgcccgcct  
1260  
gactctgggg atgtcacggt gatggacctg cactcagggtg gggtaggcca ctttactgc  
1320  
cacctgggct atgagctcca gggcgctaag atgctgacat gcatcaatgc ctccaagccg  
1380  
cactggagca gccaggagcc catctgctca gctccttggt gaggggcagt gcacaatgcc  
1440  
accatcggcc gcgtcctctc cccaagttac cctgaaaaca caaatgggag ccaattctgc  
1500  
atctggacga ttgaagctcc agagggccag aagctgcacc tgcactttga gaggtgttg  
1560  
ctgcatgaca aggacaggat gacggttcac agcgggcaga ccaacaagtc agctcttctc  
1620  
tacgactccc ttcaaaccga gagtgtccct tttagaggcc tgctgagcga aggcaacacc  
1680  
atccgcatcg agttcacgtc cgaccaggcc cgggcggcct ccacctcaa catccgattt  
1740  
gaagcgtttg agaaaggcca ctgctatgag ccctacatcc agaatgggaa cttactaca  
1800  
tccgacccga cctataacat tgggactata gtggagtcca cctgcgaccc cggccactcc  
1860  
ctggagcagg gcccgcccat catcgaatgc atcaatgtgc gggaccata ctggaatgac  
1920  
acagagcccc tgtgcagagc catgtgtggt ggggagctct ctgctgtggc tggggtggta  
1980  
ttgtcccaa actggccga gccctacgtg gaaggtgaag attgtatctg gaagatccac  
2040  
gtgggagaag agaaacggat cttcttagat atccagtcc tgaatctgag caacagtgc  
2100  
atcttgacca tctacgatgg cgacgaggtc atgccccaca tcttggggca gtacctggg  
2160  
aacagtggcc ccagaaact gtactcctcc acgccagact taaccatcca gttccattcg  
2220  
gaccctgctg gcctcatctt tggaaagggc cagggttcta tcatgaacta catagaggta  
2280  
tcaaggaatg actcctgctc ggatttaccg gagatccaga atggctggaa aaccacttct  
2340  
cacacggagt tggtaggggg agccagaatc acctaccagt gtgaccccg ctatgacatc  
2400

gtggggagtg acaccctcac ctgccagtgg gacctcagct ggagcagcga cccccattt  
 2460  
 tgtgagaaaa ttatgtactg caccgacccc ggagaggtgg atcactcgac ccgcttaatt  
 2520  
 tcggatcctg tgctgctggt ggggaccacc atccaatata cctgcaaccc cggttttgtg  
 2580  
 cttgaagga gttctcttct gacctgctac agccgtgaaa cagggactcc catctggacg  
 2640  
 tctcgccctgc cccactgcgt ttcggaggag tccctggcat gtgacaaccc agggctgcct  
 2700  
 gaaaatggat accaaatcct gtacaagcga ctctacctgc caggagagtc cctcaccttc  
 2760  
 atgtgctacg aaggctttga gctcatgggt gaagtgacca tccgctgcat cctgggacag  
 2820  
 ccatccctact ggaacgggcc cctgcccgtg tgtaaagtta atcaagacag ttttgaacat  
 2880  
 gctttagaag cagaagcggc agcagagacg tcgctggaag gggggaacat ggccctggct  
 2940  
 atcttcatcc cggctctcat catctcctta ctgctgggag gagcctacat ttacatcaca  
 3000  
 agatgtcgct actattccaa cctccgctg cctctgatgt actccaccc ctacagccag  
 3060  
 atcaccgtgg aaaccgagtt tgacaacccc atttacgaga cagggggaac ccaaaagggt  
 3120  
 tagggtttca tttaaaaaga ggtacccttt aaaaaggggc ttgtgaactc aaccccaatt  
 3180  
 tccccgagac atttatccaa aggccctggg ggccttgatt taaaccccca aaaggcggct  
 3240  
 gttttttggg taaacttttt aacaaagggt tacgggtttt tccccggat tttataaatt  
 3300  
 ttaaaagtg  
 3309

&lt;210&gt; 4978

&lt;211&gt; 792

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4978

Met	Ala	Gln	Glu	Ala	Pro	Gln	Glu	Asp	Thr	Ser	Pro	Met	Ala	Leu	Met
1				5					10					15	
Asp	Lys	Gly	Glu	Asn	Glu	Leu	Thr	Gly	Ser	Ala	Ser	Glu	Glu	Ser	Gln
			20					25					30		
Glu	Thr	Thr	Thr	Ser	Thr	Ile	Ile	Thr	Thr	Thr	Val	Ile	Thr	Thr	Glu
			35				40					45			
Gln	Ala	Pro	Ala	Leu	Cys	Ser	Val	Ser	Phe	Ser	Asn	Pro	Glu	Gly	Tyr
		50				55					60				
Ile	Asp	Ser	Ser	Asp	Tyr	Pro	Leu	Leu	Pro	Leu	Asn	Asn	Phe	Leu	Glu
65					70				75					80	
Cys	Thr	Tyr	Asn	Val	Thr	Val	Tyr	Thr	Gly	Tyr	Gly	Val	Glu	Leu	Gln
			85					90					95		
Val	Lys	Ser	Val	Asn	Leu	Ser	Asp	Gly	Glu	Leu	Leu	Ser	Ile	Arg	Gly
			100					105					110		
Val	Asp	Gly	Pro	Thr	Leu	Thr	Val	Leu	Ala	Asn	Gln	Thr	Leu	Leu	Val

4150

```
<210> 4979
<211> 1865
<212> DNA
<213> Homo sapiens
```

```
<400> 4979
gacccgcagg cgcagcccgg cagtcggcgg cgcgccgagg gcggaggtgg tgcgtgcgtg
60
cgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tggagctcgg gtgccaaagg
120
cgagccgtca gtccccgggt gcgagtcctt gctgtcttcc acacccttcc tccctccagg
180
ctccttttct acatccttcc cgcgccccc cggttgcgga ccgagcgaga acccccttaa
240
gcaggtgtgg ggggcgtgcg ggggtggcacg agacaaaagg ggcacggggg taagcccggc
300
atggcctccc gyagcctggg gggcctgagc gggatccgcg gcggtggcgg cggaggcggc
360
aagaaaagcc tgagcgcccg caatgctgcg gtggagagga ggaacctgat caccgtgtgc
420
aggttttctg tgaagaccct gattgatcgg tcttgctttg agacaattga tgattcttct
480
```

cctgaattta acaattttgc agctattttg gaacagattt taagccaccg gctaaaagg  
540  
caagtaacct ggtttggtta tgaaagtcct cgtagcttct gggactatat cagagtggct  
600  
tgccggaaag tttcacagaa ttgtatctgc agcattgaaa atatggaaaa tgtcagttct  
660  
tctagagcta agggtagagc ctggatcaga gtagcactca tggaaaaaca tttatctgaa  
720  
tacatctcta cagctctgag agacttcaaa acaaccagga gattttatga agatggagca  
780  
attgtcttgg gtgaagaagc aaatatgctt gctggcatgc ttctaggact caatgctatt  
840  
gatttcagtt tctgcctaaa gggagagggg ctggatggca gttttcctgc tgtaatagac  
900  
tataccatcatt atttgaagta tatccaaagt tctgatagta tcagcagtgga tgaggaggag  
960  
ctaaggactt tgggaagcag tggtagcgaa agcagtactc cagagaatgt cggacctcct  
1020  
ttcctcatgg atgagaacag ttggttcaac aagtgtgaaga gagttaaaca aaagtatcag  
1080  
cttaccctgg aacagaaggg ttaccctgaa gaactcttac gacttcgaga gaaccaacta  
1140  
tctgaatctg tctcccagaa taaaatacta cttcaaagga ttgaagattc cgatctggct  
1200  
cataaactgg agaaggaaca attagaatat ataattgtgg agcttcaaga tcagctgact  
1260  
gtgctaaaga ataatgattt aagatcgaga caagagttaa ctgcccattc caccaaccag  
1320  
tggccttctc caggagctct ggatgtcaat gctgttgctt tggatacgtt gctttaccga  
1380  
aaacacaata aacagtggaa aagttatcaa agtcttgacc agttatcagc agaagttagc  
1440  
ctttctcaga cttcactaga tccaggccag tcacaagaag gagatggaaa acaagacaca  
1500  
ttaaatgtaa tgagtgaagg taaggaagat actccctcat tacttggcct ctgtggatct  
1560  
ctaacgtcag tggcaagtta caagtctcta acaagcttaa aatctaata ctaccttgca  
1620  
agtcctacaa cagagatgac aagtccaggc ctaactccat cctgaaaatt tttgtgtaaa  
1680  
agccaaaact ttttatgttg taaatgttta atttacatgt ttgactgctg ggaagacctt  
1740  
tgaaatttta tattgttctg gtacatgtct gaaattctat tgcttgaggaga gaatccccctc  
1800  
cagataagag attttgagtg aaaaacataa tgatcctgcc atttttcatt tttaaaattc  
1860  
ttaca  
1865

&lt;210&gt; 4980

&lt;211&gt; 266

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



&lt;400&gt; 4980

Glu Gly Leu Asp Gly Ser Phe Pro Ala Val Ile Asp Tyr Thr Pro Tyr  
 1 5 10 15  
 Leu Lys Tyr Ile Gln Ser Ser Asp Ser Ile Ser Ser Asp Glu Glu Glu  
 20 25 30  
 Leu Arg Thr Leu Gly Ser Ser Gly Ser Glu Ser Ser Thr Pro Glu Asn  
 35 40 45  
 Val Gly Pro Pro Phe Leu Met Asp Glu Asn Ser Trp Phe Asn Lys Cys  
 50 55 60  
 Lys Arg Val Lys Gln Lys Tyr Gln Leu Thr Leu Glu Gln Lys Gly Tyr  
 65 70 75 80  
 Leu Glu Glu Leu Leu Arg Leu Arg Glu Asn Gln Leu Ser Glu Ser Val  
 85 90 95  
 Ser Gln Asn Lys Ile Leu Leu Gln Arg Ile Glu Asp Ser Asp Leu Ala  
 100 105 110  
 His Lys Leu Glu Lys Glu Gln Leu Glu Tyr Ile Ile Val Glu Leu Gln  
 115 120 125  
 Asp Gln Leu Thr Val Leu Lys Asn Asn Asp Leu Arg Ser Arg Gln Glu  
 130 135 140  
 Leu Thr Ala His Leu Thr Asn Gln Trp Pro Ser Pro Gly Ala Leu Asp  
 145 150 155 160  
 Val Asn Ala Val Ala Leu Asp Thr Leu Leu Tyr Arg Lys His Asn Lys  
 165 170 175  
 Gln Trp Lys Ser Tyr Gln Ser Leu Asp Gln Leu Ser Ala Glu Val Ser  
 180 185 190  
 Leu Ser Gln Thr Ser Leu Asp Pro Gly Gln Ser Gln Glu Gly Asp Gly  
 195 200 205  
 Lys Gln Asp Thr Leu Asn Val Met Ser Glu Gly Lys Glu Asp Thr Pro  
 210 215 220  
 Ser Leu Leu Gly Leu Cys Gly Ser Leu Thr Ser Val Ala Ser Tyr Lys  
 225 230 235 240  
 Ser Leu Thr Ser Leu Lys Ser Asn Asp Tyr Leu Ala Ser Pro Thr Thr  
 245 250 255  
 Glu Met Thr Ser Pro Gly Leu Thr Pro Ser  
 260 265

&lt;210&gt; 4981

&lt;211&gt; 1902

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4981

ngtccacag ccaggacatc agccacagtg ccggtcctgt gcctcctggc catcatcttc  
 60  
 atcctcaccg cagccctttc ctatgtgctg tgcaagagga ggagggggca gtcaccgcag  
 120  
 tcctctccag atctgccggt tcattatata cctgtggcac ctgactctaa tacctgagcc  
 180  
 aagaatggaa gtttgtgagg agacggactc tatgttgccc aggctgttat ggaactcctg  
 240  
 agtcaagtga tcctcccacc ttggcctctg aagggtgcgag gattataggc gtcacctacc  
 300  
 acatccagcc tacacgtatt tgtaatatc taacatagga ctaaccagcc actgcctctc  
 360

cttaggcccc tcatttaaaa acggttatac tataaaatct gcttttcaca ctgggtgata  
420  
ataacttga caaattctat gtgtattttg ttttgttttg ctttgctttg ttttgagacg  
480  
gagtctcgct ctgtcatcca ggctggagtg cagtggcatg atctcggtc actgcaaccc  
540  
ccatctccca ggttcaagcg attctcctgc ctctcctaa gtagctggga ctacaggtgc  
600  
tcaccaccac acccggttaa tttttgtatt tttagtagag acgggggttc accatgttga  
660  
ccaggctggg ctggaactcc tgacctgggtg atctgccac ccaggcctcc caaagtgtg  
720  
ggattaaagg tgtgagccac catgcctggc cctatgtgtg ttttttaact actaaaaatt  
780  
atttttgtaa tgattgagtc ttctttatgg aaacaactgg cctcagccct tgcgccctta  
840  
ctgtgattcc tggcttcatt ttttgctgat ggttccccct cgtcccaaatt ctctctccca  
900  
gtacaccagt tgttctctcc ccacctcage cctctcctgc atctcctgt acccgcaacg  
960  
aaggcctggg ctttcccacc ctccctcctt agcaggtgcc gtgctgggac accatacggg  
1020  
ttggtttcac ctctcagtc ccttgccctac cccagtgaga gtctgatctt gtttttattg  
1080  
ttattgcttt tattattatt gcttttatta tcattaaaac tctagttctt gttttgtctc  
1140  
tccgaatgaa gaagtatgta ttttcattag gccaaagtctg cgggaaggct ggggcagcag  
1200  
catgaagtgt ttgaggaagt ggggtgggta tgtcagtttc catctcctct ctgagcctgt  
1260  
cagggtgttt ctggagtgc gagcaggagc accctgctgg agaggccaag gcatagctgt  
1320  
gggcaggctc gggcttcagt ttttccatgc ccaccatttg cccctttgtc ctagggtact  
1380  
ttgaccagca gggatatgtg gtgtcatcac tccccaccct acatgttccc aggttctgtc  
1440  
ccatggcaca ggtgatggtc tccctctcag ctctgggtcc atctccctgg cctagttctc  
1500  
cagcatctgc tcacaggttc gagccacatc actgagcttg aggcgggcat agtccactcg  
1560  
cttcagagcc atctgacagt ccttctcga agagtagctg gagccctcat ggggctgccc  
1620  
tgtggccacc tgggtgaggt agcggtctg agctgacagc tccgcctcca cgtgttgac  
1680  
tgaagcgtg aaggccgctg cctgccggtc taggagccgc tcgttagttt tttccttga  
1740  
caattctagg atcacagtac ctgcattctg aaggatggcg ccgatttccc gttcaatgtc  
1800  
ttccagagcg cgtagtctct cgttcgccag gctgtaggta gccattatca ctctgggaat  
1860  
tctaccaag agtttctcct cagaaacgcg acgcttggtc cc  
1902

&lt;210&gt; 4982

<211> 73  
 <212> PRT  
 <213> Homo sapiens

<400> 4982  
 Met Cys Ile Leu Phe Cys Phe Ala Leu Leu Cys Phe Glu Thr Glu Ser  
 1 5 10 15  
 Arg Ser Val Ile Gln Ala Gly Val Gln Trp His Asp Leu Gly Ser Leu  
 20 25 30  
 Gln Pro Pro Ser Pro Arg Phe Lys Arg Phe Ser Cys Leu Leu Leu Ser  
 35 40 45  
 Ser Trp Asp Tyr Arg Cys Ser Pro Pro His Pro Ala Asn Phe Cys Ile  
 50 55 60  
 Phe Ser Arg Asp Gly Val Ser Pro Cys  
 65 70

<210> 4983  
 <211> 1418  
 <212> DNA  
 <213> Homo sapiens

<400> 4983  
 cgtggtttct catgccaata ctggtggaaa aatttccatt tgttcgaaaa tcagagagaa  
 60  
 cactggaatg ttacgttcat aacttactaa ggattagtgt atattttcca acccttgagg  
 120  
 catgaaattc tggagcttat tattgaaaaa ctactcaagt tggatgtgaa tgcattcccgg  
 180  
 cagggtattg aagatgctga agaaacagca actcaaactt ttggtgggac agattccacg  
 240  
 gaaggattgt ttaatatgga tgaagatgaa gaaactgaac atgaaacaaa ggctggtcct  
 300  
 gaacggctcg accagatggg gcattcctgta gccgagcgcc tggacatcct gatgtctttg  
 360  
 gttttgtcct acatgaagga tgtctgctat gtagatggta aggttgataa cggcaaaaca  
 420  
 aaggatctat atcgcgacct gataaacatc ttgacaaac tcctgttgcc caccatgcc  
 480  
 tcctgccatg tacagttttt catgttttac ctctgtagtt tcaaattggg attcgcagag  
 540  
 gcatttttgg aacatctctg gaaaaaattg caggacccaa gtaatcctgc catcatcagg  
 600  
 caggctgctg gaaattatat tggaagcttt ttggcaagag ctaaatttat tcctcttatt  
 660  
 actgtaaaat catgcctaga tcttttgggt aactggctgc acatatacct taataaccag  
 720  
 gattcgggaa caaaggcatt ctgcgatgtt gctctccatg gaccatttta ctacgctgc  
 780  
 caagctgtgt tctacacctt tgtttttaga cacaagcagc ttttgagcgg aaacctgaaa  
 840  
 gaaggtttgc agtatcttca gagtctgaat ttgagcgga tagtgatgag ccagctaaat  
 900  
 cccctgaaga ttgcctgcc ctcaagtgggt aacttttttg ctgcaatcac aaataagtac  
 960

cagctcgtct tctgctacac catcattgag aggaacaatc gccagatgct gccagtcatt  
 1020  
 aggagtaccg ctggaggaga ctcaagtgcag acctgcacaa acccactgga caccttcttc  
 1080  
 ccctttgatc cctgtgtgct gaagaggtca aagaaattca ttgatcctat ttatcaggtg  
 1140  
 tgggaagaca tgagtgtgta agagctacag gagttcaaga aacccatgaa aaaggacata  
 1200  
 gtggaagatg aagatgatga ctttctgaaa ggcgaaattc cccagaaatt agtagtaagt  
 1260  
 ggggtctttg tgggttggga agtagtttta atgtagaaag acatttacat ataagtctgt  
 1320  
 ttaatttcaa aggagtttgt gaaaaaaaaat ccatggtgaa aatgaaacaa tgacatggtt  
 1380  
 aatctggaac ttacgttctt ataccaataa aaggtacc  
 1418

<210> 4984

<211> 256

<212> PRT

<213> Homo sapiens

<400> 4984

Leu	Gly	Phe	Ala	Glu	Ala	Phe	Leu	Glu	His	Leu	Trp	Lys	Lys	Leu	Gln
1				5					10					15	
Asp	Pro	Ser	Asn	Pro	Ala	Ile	Ile	Arg	Gln	Ala	Ala	Gly	Asn	Tyr	Ile
			20					25					30		
Gly	Ser	Phe	Leu	Ala	Arg	Ala	Lys	Phe	Ile	Pro	Leu	Ile	Thr	Val	Lys
		35					40					45			
Ser	Cys	Leu	Asp	Leu	Leu	Val	Asn	Trp	Leu	His	Ile	Tyr	Leu	Asn	Asn
	50					55					60				
Gln	Asp	Ser	Gly	Thr	Lys	Ala	Phe	Cys	Asp	Val	Ala	Leu	His	Gly	Pro
65					70					75				80	
Phe	Tyr	Ser	Ala	Cys	Gln	Ala	Val	Phe	Tyr	Thr	Phe	Val	Phe	Arg	His
			85						90					95	
Lys	Gln	Leu	Leu	Ser	Gly	Asn	Leu	Lys	Glu	Gly	Leu	Gln	Tyr	Leu	Gln
		100					105					110			
Ser	Leu	Asn	Phe	Glu	Arg	Ile	Val	Met	Ser	Gln	Leu	Asn	Pro	Leu	Lys
	115					120						125			
Ile	Cys	Leu	Pro	Ser	Val	Val	Asn	Phe	Phe	Ala	Ala	Ile	Thr	Asn	Lys
	130					135					140				
Tyr	Gln	Leu	Val	Phe	Cys	Tyr	Thr	Ile	Ile	Glu	Arg	Asn	Asn	Arg	Gln
145					150					155				160	
Met	Leu	Pro	Val	Ile	Arg	Ser	Thr	Ala	Gly	Gly	Asp	Ser	Val	Gln	Thr
			165						170					175	
Cys	Thr	Asn	Pro	Leu	Asp	Thr	Phe	Phe	Pro	Phe	Asp	Pro	Cys	Val	Leu
		180						185					190		
Lys	Arg	Ser	Lys	Lys	Phe	Ile	Asp	Pro	Ile	Tyr	Gln	Val	Trp	Glu	Asp
	195						200					205			
Met	Ser	Ala	Glu	Glu	Leu	Gln	Glu	Phe	Lys	Lys	Pro	Met	Lys	Lys	Asp
	210					215					220				
Ile	Val	Glu	Asp	Glu	Asp	Asp	Asp	Phe	Leu	Lys	Gly	Glu	Ile	Pro	Gln
225					230						235			240	
Lys	Leu	Val	Val	Ser	Gly	Val	Phe	Val	Gly	Trp	Glu	Val	Val	Leu	Met

245

250

255

<210> 4985  
<211> 5695  
<212> DNA  
<213> Homo sapiens

<400> 4985  
cgctgccgcc gtcacccgcg ggaccccggg agcacagact cccctcccc cggccccctc  
60  
aggccggggg tgaccttgcc ccctggagcc ctccacctga ataccaagga caccaccgag  
120  
gttgctgaaa acagccacca cctgaagatc tttctcccca agaagctgct ggagtgtctt  
180  
cctcgctgcc cgctgctgcc tccagagagg ctacggtgga atacaaatga ggagattgca  
240  
tctacctga tcaccttga gaagcatgat gagggtgtgt cttgtgcccc aaagacaagg  
300  
cctcagaatg gctccatcat cctctacaat cgcaagaagg tgaaatatcg gaaggatggg  
360  
tacctctgga agaagcggaa ggatgggaag accaccgag aggaccacat gaagctgaag  
420  
gtccagggca tggagcctgt ctctggcag tgtctctatg gctgctacgt tcaactcttc  
480  
atcgteccca cattccatcg gcgtgctac tgggtgctcc agaaccctga catcgctctt  
540  
gtgcactacc tgaacgtccc agccctggag gactgtggaa agggctgcag ccccatcttt  
600  
tgttccatca gcagcgaccg tcgagagtgg ctgaagtggg cccgggagga gttgttggga  
660  
cagctgaagc ccatgtttca tggcatcaag tggagctgcg ggaatggaac agaagagttc  
720  
tctgtagaac acctggtgca gcagattttg gacaccacc caaccaagcc tgctccccga  
780  
accacgcct gtctctgcag tggggggctt ggttctggga gccttaccga caaatgcagc  
840  
agcacgaaac accgcatcat ctctcccaa gtggagcccc gagctttaac cctgacctct  
900  
atccccacc ctaccccc agagcctcct cactgatag cccacttcc cccagagctc  
960  
cccaaggcac acacctcccc atcttcttcc tcttcttct cctcatcagg ttttgagag  
1020  
cccctagaaa tcagacctag cctccact tctcgagggg gttcttcaag aggaggcact  
1080  
gctatcttcc tctgacagg actggagcag cgggctggag gcttgacgcc caccaggcac  
1140  
ttggctccac aggtgatcc taggccttcc atgagtttg cagtggttgt aggcactgag  
1200  
ccttctgccc caccagctcc tcccagtcct gcctttgacc ctgatcgttt tctcaacagc  
1260  
ccccagagg gccagacata tggagggggg caggagtaa gccagactt ccccgaggca  
1320  
gaggccgctc ataccctctg ttctgcccta gacgtgctg ctgccctgga gcccaggga  
1380

gctgctcggg gtccccacc acagtcagta gcagggtggga gaagaggaaa ctgcttcttc  
1440  
atccaagatg atgacagtgg ggaggagctc aagggtcacg gggctgcccc acccatacct  
1500  
tcacccccctc cctcaccccc accctcacct gcccccttgg agccgtcaag cagggttagga  
1560  
agaggagagg ccttgtttgg aggacctgtt ggggccagtg aactggagcc cttcagtctt  
1620  
tcattcattcc cagaccttat gggagaactc atcagtgcg aagctccaag catccctgct  
1680  
ccgaccccc agctgtctcc tgctcttagc accatcacag acttctcccc agagtggctc  
1740  
taccagagg gtgggggtcaa ggtgctcatc acaggctcctt ggaccgaagc cgccgagcat  
1800  
tactcctgtg tctttgatca catcgcagtg ccagcctcac ttgtccagcc tgggtgtctta  
1860  
cgctgctact gtccccccca tgaggtaggg ctggtgtctt tgcagggtggc agggcgggag  
1920  
gggccccctt ctgcttctgt gctctttgag tctcgagccc gccgattcct gtctctgcct  
1980  
agtactcaac ttgactggct gtcactggac gacaaccagt tccggatgtc catactagag  
2040  
cgactggagc agatggagaa gcggatggca gagatcgag cagctgggca ggtgccttgc  
2100  
cagggtcctg atgctcctcc agttcaggat gaaggccagg ggcctgggtt cgaagcacgg  
2160  
gtagtggctt tggtagaaag catgatccca cgctccacct ggaagggtcc tgaacgtctg  
2220  
gcccattgaa gcccttccg gggcatgagc cttctgcacc tggctgctgc ccagggtat  
2280  
gcccgcctca tgcagaccct gagccagtgg cggagtgtgg agactggaag cttggactta  
2340  
gagcaggagg ttgaccgct caactgtgat catttctctt gcacccctct gatgtgggct  
2400  
tgtgccttgg gacacctgga agctgctgtg ctcttttcc gttggaaccg acaggcactg  
2460  
agcattcccc actctctggg ccgtctgcca ttgtctgtgg ctcatccccg gggcatgtg  
2520  
cgcttggccc gctgccttga ggaactacag agacaggagc cttcgggtgga gccccattt  
2580  
gccctatgc caccctctc cagcccagac actggtctga gcagcgtctc ctgcctctg  
2640  
gagctgtcgg atggcacctt ttccgtcacg tcagcctatt ctagtcccc agatggcagt  
2700  
ccccccctg cacctctgcc agcctctgag atgactatgg aggacatggc ccaggccag  
2760  
ctttctctg gtgtccaga agcccccta ctctcatgg actatgaggc taccaactcc  
2820  
aaggggcccc tctctctcct tctgcctc ccaccagctt cagatgatgg ggtgctcca  
2880  
gaggacgctg acagcccaca ggctgtggat gtgatcccg tggacatgat ctactagcc  
2940  
aagcagatca tcgaagccac accggagcgg attaaacgag aggacttcgt ggggctgccc  
3000

gaggctggag cctcaatgcg ggagcggaca ggggctgtgg ggctcagtga gaccatgtcc  
3060  
tggttgcca gctacctgga gaatgtggac catttcccca gctcaacccc tcccagcgaa  
3120  
ctgccctttg agcgaggctg cctggctgtc ccttcagcac cctcctgggc agagtttctc  
3180  
tctgcatcca ccagtggcaa gatggaaagt gattttgccc tgctgacact atcagatcac  
3240  
gagcagcggg aactgtatga ggctgcccga gtcattccaga cggccttccg aaagtacaag  
3300  
ggcggcgggc tgaaggagca gcaggaggta gcagcagctg taatccagcg ctgttaccgg  
3360  
aagtacaagc agctgacctg gattgcactt aagtttgac tctataagaa gatgaccag  
3420  
gcgccatcc tgatccagag caagttccga agctactatg aacagaagcg atttcagcag  
3480  
agccgcccag cggtgtgtct catccagcag cactaccgct cctaccgccc caggcccggc  
3540  
cctccccacc ggacttcggc caccctgcct gcccgcaaca aaggctcctt tctaccaag  
3600  
aagcaggacc aggcagcccc gaagatcatg agattcctgc ggcgctgccg acacaggatg  
3660  
agggaactga agcagaacca ggagctggaa gggcttcccc agccgggact ggccacatga  
3720  
cctggccacc gcctttctca ccaccctggg ggcgcctcgt gcagtcttaa caggagagg  
3780  
gctttctggg gcagggggag cccctgtcgg cagctttcct gttcacctt gttggagccc  
3840  
tctgtaggcc tcctccctcc tccccacgcc ttgctccac acccctctcc tcgtccctcc  
3900  
tggtcgtgcc ccgtctcttt tggctcctggc tccagaaaac ccgcgcccc cacaacctga  
3960  
tcttcctgtg tgacctcgg agccctgcct gccctgtct cccagctcct cctgcctga  
4020  
cccgactcgg cccctcctg acttgcccta tttatttgtt cgacgcgtct ctgaatgtat  
4080  
ccgcctcggg tcccaccact gccttcgtct cgcacgcccc tcgtgtttca gggctgaccg  
4140  
tgtccccacc cgactccgca tgtttgcgtc tgtttcctcc ctctctggcc ctgtcttacc  
4200  
ccatcacccg actctggcca ctgacctcag ggccgaaggg gaggtggtgt acataggaac  
4260  
gcgttgcgga gtccgccccg tcccccgagg ggaggggtct tgtacatact gtaacataca  
4320  
gagtatagt aagaatctat ttaaggcgcc gcggggaggg ctgcacggcc gggcttgtgg  
4380  
ttctctagcg cggcgggggc ctctgcctg ctccacgggc actttctact tgtgcatggg  
4440  
cttggtttat acgaattgcc attaaacatc gctgcaccag ccagcctccg gcctctgtct  
4500  
gcggggcgcg ggcggggcct aggccagctg gaggccgcca tgcaccgcgg gcctgggatc  
4560  
tgcgcccagg ccaggcgggc ccagggtttt ccgcctccga cgtgtttccg gccttaaagg  
4620

cattcegeccc ttcccttttaa gacgcaccgc cccctctcag tcaactcccaa gatggcggac  
 4680  
 ctactgggct ccatcctgag ctccatggag aagccaccca gcctcgggtga ccaggagact  
 4740  
 cggcgcaagg cccgagaaca ggccgcccgc ctgaagaaac tacaagagca agagaaacaa  
 4800  
 cagaaagtgg agtttcgtaa aaggatggag aaggaggtgt cagatttcat tcaagacagt  
 4860  
 gggcagatca agaaaaagt ttagccaatg aacaagatcg agaggagcat actacatgat  
 4920  
 gtggtggaag tggctggcct gacatccttc tcctttgggg aagatgatga ctgtcgctat  
 4980  
 gtcatgatct tcaaaaagga gtttgcaccc tcagatgaag agctagactc ttaccgtcgt  
 5040  
 ggagaggaat gggaccccca gaaggctgag gagaagcgga agctgaagga gctggcccag  
 5100  
 aggcaagagg aggaggcagc ccagcagggg cctgtggtgg tgagccctgc cagcgactac  
 5160  
 aaggacaagt acagccacct catcggcaag ggagcagcca aagacgcagc ccacatgcta  
 5220  
 caggccaata agacctacgg ctgtgtgccc gtggccaata agagggacac acgctccatt  
 5280  
 gaagaggcta tgaatgagat cagagccaag aagcgtctgc ggcagagtgg ggaagagttg  
 5340  
 ccgccaacct cctaggcgcc ccgcccagct ccctttgacc cctggggcag ggcagggggc  
 5400  
 agggagagac aaggctgctg ctattagagc ccacctgga gccccacctc tgaaccacct  
 5460  
 cctaccagct gtccctcagg ctgggggaaa acaggtgttt gatttgtcac cgttggagct  
 5520  
 tggatatgtg cgtggcatgt gtgtgtgtgt gtgtgagagt gtgaatgcac aggtgggtat  
 5580  
 ttaatctgta ttattccccg ttcttggaat tttcttcccc atggggctgg ggtactttac  
 5640  
 attcaataaa tactgtttta cccaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 5695

&lt;210&gt; 4986

&lt;211&gt; 1239

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4986

Arg	Cys	Arg	Arg	His	Pro	Arg	Asp	Pro	Gly	Ser	Thr	Asp	Ser	Pro	Ser
1				5					10					15	
Pro	Arg	Pro	Leu	Arg	Pro	Gly	Val	Thr	Leu	Pro	Pro	Gly	Ala	Leu	Thr
			20					25					30		
Met	Asn	Thr	Lys	Asp	Thr	Thr	Glu	Val	Ala	Glu	Asn	Ser	His	His	Leu
		35					40					45			
Lys	Ile	Phe	Leu	Pro	Lys	Lys	Leu	Leu	Glu	Cys	Leu	Pro	Arg	Cys	Pro
	50					55					60				
Leu	Leu	Pro	Pro	Glu	Arg	Leu	Arg	Trp	Asn	Thr	Asn	Glu	Glu	Ile	Ala
65					70					75				80	
Ser	Tyr	Leu	Ile	Thr	Phe	Glu	Lys	His	Asp	Glu	Trp	Leu	Ser	Cys	Ala



				85					90					95		
Pro	Lys	Thr	Arg	Pro	Gln	Asn	Gly	Ser	Ile	Ile	Leu	Tyr	Asn	Arg	Lys	
				100					105					110		
Lys	Val	Lys	Tyr	Arg	Lys	Asp	Gly	Tyr	Leu	Trp	Lys	Lys	Arg	Lys	Asp	
				115					120					125		
Gly	Lys	Thr	Thr	Arg	Glu	Asp	His	Met	Lys	Leu	Lys	Val	Gln	Gly	Met	
				130					135					140		
Glu	Pro	Val	Ser	Trp	Gln	Cys	Leu	Tyr	Gly	Cys	Tyr	Val	His	Ser	Ser	
				145					150					155	160	
Ile	Val	Pro	Thr	Phe	His	Arg	Arg	Cys	Tyr	Trp	Leu	Leu	Gln	Asn	Pro	
				165					170					175		
Asp	Ile	Val	Leu	Val	His	Tyr	Leu	Asn	Val	Pro	Ala	Leu	Glu	Asp	Cys	
				180					185					190		
Gly	Lys	Gly	Cys	Ser	Pro	Ile	Phe	Cys	Ser	Ile	Ser	Ser	Asp	Arg	Arg	
				195					200					205		
Glu	Trp	Leu	Lys	Trp	Ser	Arg	Glu	Glu	Leu	Leu	Gly	Gln	Leu	Lys	Pro	
				210					215					220		
Met	Phe	His	Gly	Ile	Lys	Trp	Ser	Cys	Gly	Asn	Gly	Thr	Glu	Glu	Phe	
				225					230					235	240	
Ser	Val	Glu	His	Leu	Val	Gln	Gln	Ile	Leu	Asp	Thr	His	Pro	Thr	Lys	
				245					250					255		
Pro	Ala	Pro	Arg	Thr	His	Ala	Cys	Leu	Cys	Ser	Gly	Gly	Leu	Gly	Ser	
				260					265					270		
Gly	Ser	Leu	Thr	His	Lys	Cys	Ser	Ser	Thr	Lys	His	Arg	Ile	Ile	Ser	
				275					280					285		
Pro	Lys	Val	Glu	Pro	Arg	Ala	Leu	Thr	Leu	Thr	Ser	Ile	Pro	His	Pro	
				290					295					300		
His	Pro	Pro	Glu	Pro	Pro	Pro	Leu	Ile	Ala	Pro	Leu	Pro	Pro	Glu	Leu	
				305					310					315	320	
Pro	Lys	Ala	His	Thr	Ser	Pro	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	
				325					330					335		
Gly	Phe	Ala	Glu	Pro	Leu	Glu	Ile	Arg	Pro	Ser	Pro	Pro	Thr	Ser	Arg	
				340					345					350		
Gly	Gly	Ser	Ser	Arg	Gly	Gly	Thr	Ala	Ile	Leu	Leu	Leu	Thr	Gly	Leu	
				355					360					365		
Glu	Gln	Arg	Ala	Gly	Gly	Leu	Thr	Pro	Thr	Arg	His	Leu	Ala	Pro	Gln	
				370					375					380		
Ala	Asp	Pro	Arg	Pro	Ser	Met	Ser	Leu	Ala	Val	Val	Val	Gly	Thr	Glu	
				385					390					395	400	
Pro	Ser	Ala	Pro	Pro	Ala	Pro	Pro	Ser	Pro	Ala	Phe	Asp	Pro	Asp	Arg	
				405					410					415		
Phe	Leu	Asn	Ser	Pro	Gln	Arg	Gly	Gln	Thr	Tyr	Gly	Gly	Gly	Gln	Gly	
				420					425					430		
Val	Ser	Pro	Asp	Phe	Pro	Glu	Ala	Glu	Ala	Ala	His	Thr	Pro	Cys	Ser	
				435					440					445		
Ala	Leu	Glu	Pro	Ala	Ala	Ala	Leu	Glu	Pro	Gln	Ala	Ala	Ala	Arg	Gly	
				450					455					460		
Pro	Pro	Pro	Gln	Ser	Val	Ala	Gly	Gly	Arg	Arg	Gly	Asn	Cys	Phe	Phe	
				465					470					475	480	
Ile	Gln	Asp	Asp	Asp	Ser	Gly	Glu	Glu	Leu	Lys	Gly	His	Gly	Ala	Ala	
				485					490					495		
Pro	Pro	Ile	Pro	Ser	Pro	Pro	Pro	Ser	Pro	Pro	Pro	Ser	Pro	Ala	Pro	
				500					505					510		
Leu	Glu	Pro	Ser													

515	520	525
Pro Val Gly Ala Ser Glu Leu Glu Pro Phe Ser Leu Ser Ser Phe Pro		
530	535	540
Asp Leu Met Gly Glu Leu Ile Ser Asp Glu Ala Pro Ser Ile Pro Ala		
545	550	555
Pro Thr Pro Gln Leu Ser Pro Ala Leu Ser Thr Ile Thr Asp Phe Ser		
565	570	575
Pro Glu Trp Ser Tyr Pro Glu Gly Gly Val Lys Val Leu Ile Thr Gly		
580	585	590
Pro Trp Thr Glu Ala Ala Glu His Tyr Ser Cys Val Phe Asp His Ile		
595	600	605
Ala Val Pro Ala Ser Leu Val Gln Pro Gly Val Leu Arg Cys Tyr Cys		
610	615	620
Pro Ala His Glu Val Gly Leu Val Ser Leu Gln Val Ala Gly Arg Glu		
625	630	635
Gly Pro Leu Ser Ala Ser Val Leu Phe Glu Tyr Arg Ala Arg Arg Phe		
645	650	655
Leu Ser Leu Pro Ser Thr Gln Leu Asp Trp Leu Ser Leu Asp Asp Asn		
660	665	670
Gln Phe Arg Met Ser Ile Leu Glu Arg Leu Glu Gln Met Glu Lys Arg		
675	680	685
Met Ala Glu Ile Ala Ala Ala Gly Gln Val Pro Cys Gln Gly Pro Asp		
690	695	700
Ala Pro Pro Val Gln Asp Glu Gly Gln Gly Pro Gly Phe Glu Ala Arg		
705	710	715
Val Val Val Leu Val Glu Ser Met Ile Pro Arg Ser Thr Trp Lys Gly		
725	730	735
Pro Glu Arg Leu Ala His Gly Ser Pro Phe Arg Gly Met Ser Leu Leu		
740	745	750
His Leu Ala Ala Ala Gln Gly Tyr Ala Arg Leu Ile Glu Thr Leu Ser		
755	760	765
Gln Trp Arg Ser Val Glu Thr Gly Ser Leu Asp Leu Glu Gln Glu Val		
770	775	780
Asp Pro Leu Asn Val Asp His Phe Ser Cys Thr Pro Leu Met Trp Ala		
785	790	795
Cys Ala Leu Gly His Leu Glu Ala Ala Val Leu Leu Phe Arg Trp Asn		
805	810	815
Arg Gln Ala Leu Ser Ile Pro Asp Ser Leu Gly Arg Leu Pro Leu Ser		
820	825	830
Val Ala His Ser Arg Gly His Val Arg Leu Ala Arg Cys Leu Glu Glu		
835	840	845
Leu Gln Arg Gln Glu Pro Ser Val Glu Pro Pro Phe Ala Leu Ser Pro		
850	855	860
Pro Ser Ser Ser Pro Asp Thr Gly Leu Ser Ser Val Ser Ser Pro Ser		
865	870	875
Glu Leu Ser Asp Gly Thr Phe Ser Val Thr Ser Ala Tyr Ser Ser Ala		
885	890	895
Pro Asp Gly Ser Pro Pro Pro Ala Pro Leu Pro Ala Ser Glu Met Thr		
900	905	910
Met Glu Asp Met Ala Pro Gly Gln Leu Ser Ser Gly Val Pro Glu Ala		
915	920	925
Pro Leu Leu Leu Met Asp Tyr Glu Ala Thr Asn Ser Lys Gly Pro Leu		
930	935	940
Ser Ser Leu Pro Ala Leu Pro Pro Ala Ser Asp Asp Gly Ala Ala Pro		

945                                      950                                      955                                      960  
 Glu Asp Ala Asp Ser Pro Gln Ala Val Asp Val Ile Pro Val Asp Met  
    965                                      970                                      975  
 Ile Ser Leu Ala Lys Gln Ile Ile Glu Ala Thr Pro Glu Arg Ile Lys  
    980                                      985                                      990  
 Arg Glu Asp Phe Val Gly Leu Pro Glu Ala Gly Ala Ser Met Arg Glu  
    995                                      1000                                      1005  
 Arg Thr Gly Ala Val Gly Leu Ser Glu Thr Met Ser Trp Leu Ala Ser  
    1010                                      1015                                      1020  
 Tyr Leu Glu Asn Val Asp His Phe Pro Ser Ser Thr Pro Pro Ser Glu  
 1025                                      1030                                      1035                                      1040  
 Leu Pro Phe Glu Arg Gly Arg Leu Ala Val Pro Ser Ala Pro Ser Trp  
    1045                                      1050                                      1055  
 Ala Glu Phe Leu Ser Ala Ser Thr Ser Gly Lys Met Glu Ser Asp Phe  
    1060                                      1065                                      1070  
 Ala Leu Leu Thr Leu Ser Asp His Glu Gln Arg Glu Leu Tyr Glu Ala  
    1075                                      1080                                      1085  
 Ala Arg Val Ile Gln Thr Ala Phe Arg Lys Tyr Lys Gly Arg Arg Leu  
    1090                                      1095                                      1100  
 Lys Glu Gln Gln Glu Val Ala Ala Ala Val Ile Gln Arg Cys Tyr Arg  
 1105                                      1110                                      1115                                      1120  
 Lys Tyr Lys Gln Leu Thr Trp Ile Ala Leu Lys Phe Ala Leu Tyr Lys  
    1125                                      1130                                      1135  
 Lys Met Thr Gln Ala Ala Ile Leu Ile Gln Ser Lys Phe Arg Ser Tyr  
    1140                                      1145                                      1150  
 Tyr Glu Gln Lys Arg Phe Gln Gln Ser Arg Arg Ala Ala Val Leu Ile  
    1155                                      1160                                      1165  
 Gln Gln His Tyr Arg Ser Tyr Arg Arg Arg Pro Gly Pro Pro His Arg  
    1170                                      1175                                      1180  
 Thr Ser Ala Thr Leu Pro Ala Arg Asn Lys Gly Ser Phe Leu Thr Lys  
 1185                                      1190                                      1195                                      1200  
 Lys Gln Asp Gln Ala Ala Arg Lys Ile Met Arg Phe Leu Arg Arg Cys  
    1205                                      1210                                      1215  
 Arg His Arg Met Arg Glu Leu Lys Gln Asn Gln Glu Leu Glu Gly Leu  
    1220                                      1225                                      1230  
 Pro Gln Pro Gly Leu Ala Thr  
    1235

&lt;210&gt; 4987

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4987

gtcggggcca cggagcttgc aggagctgag gcagctcaga gccagcctcg gtggtgaccc  
 60  
 cgtctccctg gtggggacac tccattttcc agctcttgat agaaacacag gtgactgtcg  
 120  
 ggaggagtgg gagggaggct ccttgtgtgg cgagtcctt cgctcttagt ggtctctgct  
 180  
 ccccttgtgg aaacgcagtt ccaagaaaac aaagaggaaa tgctgcgaag agccacaagg  
 240  
 actttttctc tgagtcacaa gaagacgaat atacgtgca atgacgcagt gaggaagaa  
 300

gtcgcccttgc acccatatgg ctgctgagga tgggagagat ggacgcggtc ggagaga  
357

<210> 4988

<211> 105

<212> PRT

<213> Homo sapiens

<400> 4988

Met	Gly	Ala	Arg	Arg	Leu	Leu	Pro	Ser	Leu	Arg	His	Cys	Ser	Val	Tyr
1				5					10					15	
Ser	Ser	Ser	Cys	Asp	Ser	Glu	Lys	Lys	Ser	Leu	Trp	Leu	Phe	Ala	Ala
			20					25					30		
Phe	Pro	Leu	Cys	Phe	Leu	Gly	Thr	Ala	Phe	Pro	Gln	Gly	Glu	Gln	Arg
		35					40					45			
Pro	Leu	Glu	Ala	Lys	Gly	Leu	Ala	Thr	Gln	Gly	Ala	Ser	Leu	Pro	Leu
	50					55				60					
Leu	Pro	Thr	Val	Thr	Cys	Val	Ser	Ile	Lys	Ser	Trp	Lys	Met	Glu	Cys
65					70				75				80		
Pro	His	Gln	Gly	Asp	Gly	Val	Thr	Thr	Glu	Ala	Gly	Ser	Glu	Leu	Pro
			85					90					95		
Gln	Leu	Leu	Gln	Ala	Pro	Trp	Pro	Arg							
			100					105							

<210> 4989

<211> 1723

<212> DNA

<213> Homo sapiens

<400> 4989

tgatcacatc gggggactct ttctacatcc ggctgaacct gaacatctcc agccagctgg  
60  
acgcctgcac catgtccctg aagtgtgacg atgttgcgca cgtccgtgac accatgtacc  
120  
aggacaggca cgagtggctg tgcgcgcggg tcgaccttt cacagaccat gacctggata  
180  
tgggcacatc acccagctac agccgagccc agcagctcct cctggtgaaa ctgcagcgcc  
240  
tgatgcaccg aggcagccgg gaggaggtag acggcaccac ccacaccctg cgggcactcc  
300  
ggaacaccct gcagccagaa gaagcgcttt caacaagcga cccccgggtc agcccccgtc  
360  
tctcgcgagc aagcttcctt tttggccagc tccttcagtt cgtcagcagg tccgagaaca  
420  
agtataagcg gatgaacagc aacgagcggg tccgcatcat ctcggggagt ccgctagggg  
480  
gcctggcccc gtcctcgctg gacgccacca agctcttgac tgagaagcag gaagagctgg  
540  
accctgagag cgagctgggc aagaacctca gcctcatccc ctacagcctg gtacgcgcct  
600  
tctactgcga gcgcgcggg cccgtgctct tcacaccac cgtgctggcc aagacgctgg  
660  
tgcagaggct gctcaactcg ggaggtgcca tggagttcac catctgcaag tcagatatcg  
720

tcacaagaga tgagttcctc agaaggcaga agacggagac catcatctac tcccagagaga  
 780  
 agaaccccaa cgcgttcgaa tgcacgcgcc ctgccaacat tgaagctgtg gccgccaaga  
 840  
 acaagcactg cctgctggag gctgggatcg gctgcacaag agacttgatc aagtccaaca  
 900  
 tctaccccat cgtgctcttc atccgggtgt gtgagaagaa catcaagagg ttcagaaagc  
 960  
 tgctgccccg gcctgagacg gaggaggagt tcctgcgcgt gtgccggctg aaggagaagg  
 1020  
 agctggaggc cctgccgtgc ctgtacgcca cgggtgaacc tgacatgtgg ggcagcgtag  
 1080  
 aggagctgct ccgcgttgct aaggacaaga tcggcgagga gcagcgcaag accatctggg  
 1140  
 tggacgagga ccagctgtga ggcgggccc ctgggcagag agactctgtg gcgcggggca  
 1200  
 tcctatgagg caggcacctt gggcagagag atgcagtggg tgcgggggga tcctgtggcc  
 1260  
 cacagagctg cccagcaga cgctccgcc caccgggtga tggagccccg gggggacagt  
 1320  
 cgtgcctggg gaggagcagg gtacagccca tccccccagc cctggctgac ctggcctagc  
 1380  
 agtttgcccc tgctggcctt agcagggaga caggggagca aagaacgcca agccggaggc  
 1440  
 cccaggccag ccggcctctc gagagccaga gcagcagttg aatgtaatgc tggggacagg  
 1500  
 catgctgccg ccagtagggc ggggaccgg acagccaggt gactaccagt cctggggaca  
 1560  
 cactcaccat aaacacatcc ccaggcagga cagatcgggg aaggggtgtg taccaggcta  
 1620  
 tgatttctct tgcattaaaa tgtattatta tttcttgtt tcgaccttt gtttgtgaac  
 1680  
 agcttgccag gccttgagcc cttgccgcct tcctaacctg aaa  
 1723

&lt;210&gt; 4990

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4990

Thr	Ala	Pro	Thr	Thr	Pro	Cys	Gly	His	Ser	Gly	Thr	Pro	Cys	Ser	Gln
1				5					10					15	
Lys	Lys	Arg	Phe	Gln	Gln	Ala	Thr	Pro	Gly	Ser	Ala	Pro	Val	Ser	Arg
			20					25					30		
Glu	Gln	Ala	Ser	Phe	Leu	Ala	Ser	Ser	Phe	Ser	Ser	Ser	Ala	Gly	Pro
		35					40					45			
Arg	Thr	Ser	Ile	Ser	Gly										
	50														

&lt;210&gt; 4991

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4991

aaattttatt acccagaact gtacaaactg gtgactggga aagagcccac tcggagattc  
 60  
 tccaccattg tgggtggagga aggccacgag ggcctcacgc acttcctgat gaacgaggtc  
 120  
 atcaagctgc agcagcagat gaaggccaag gacctgcaac gctgcgagct gctggccagg  
 180  
 ttgcggcagc tggaggatga gaagaagcag atgacgctga cgcgcggtgga gctgctaacc  
 240  
 ttccaggagc ggtactacaa gatgaaggaa gagcggggaca gctacaatga cgagctggtc  
 300  
 aaggtgaagg acgacaacta caacttagcc atgctgctacg cacagctcag tgaggagaag  
 360  
 aacatggcgg tcatgaggag ccgagacctc caactcgaga tcgatcagct aaagcaccgg  
 420  
 ttgaataaga tggaggagga atgtaagctg gagagaaatc agtctctaaa actgaagaat  
 480  
 gacattgaaa atcggcccaa gaaggagcag gttctggaac tggagcggga gaatgaaatg  
 540  
 ctgaagacca aaaaccagga gctgcagtcc atcatccagg ccgggaagcg cagcctgcca  
 600  
 gactcagaca aggccatcct ggacatcttg gaacacgacc gcaaggaggc cctggaggag  
 660  
 aggcaggagc tgggtcaacag gatctacaac ctgcaggagg aggcccgcca ggagaggag  
 720  
 ctgcgagaca agtacctgga ggagaaggag gacctggagc tcaagtgtc gaccctggga  
 780  
 aaggactgtg aaatgtacaa gcaccgcatg aacacggtca tgctgcag  
 828

&lt;210&gt; 4992

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4992

Asp Ile Leu Glu His Asp Arg Lys Glu Ala Leu Glu Asp Arg Gln Glu  
 1 5 10 15  
 Leu Val Asn Arg Ile Tyr Asn Leu Gln Glu Glu Ala Arg Gln Ala Glu  
 20 25 30  
 Glu Leu Arg Asp Lys Tyr Leu Glu Glu Lys Glu Asp Leu Glu Leu Lys  
 35 40 45  
 Cys Ser Thr Leu Gly Lys Asp Cys Glu Met Tyr Lys His Arg Met Asn  
 50 55 60  
 Thr Val Met Leu Gln  
 65

&lt;210&gt; 4993

&lt;211&gt; 837

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4993

tggaccttca ggccgcccggg gccagggcgc agggggccgc ggaccgtctc ggggcccgc  
 60  
 gctgcctagc gcgcgggggg cgccccagc cgggagctgg ctttgctaca gctgaccact  
 120  
 ccagtcagga gagagagact gagaaggcta tggatcgact agcccgtgga acacagagca  
 180  
 ttcctaataga cagtctgcc cggggtgagg gcacccattc tgaagaggaa ggctttgcca  
 240  
 tggatgagga ggactctgat ggagaactga atacctggga gctgtcagaa gggacaaact  
 300  
 gtccacccaa ggaacagcct ggcgatcttt ttaatgagga ctgggactcg gagttgaaag  
 360  
 cagatcaagg gaatccatat gatgctgacg acatccagga gagcatttct caagagctta  
 420  
 aaccttgggt gtgctgtgcc ccacaaggag acatgatcta tgaccccagc tggcaccatc  
 480  
 cgcctccact gataccctat tattccaaga tggctttga aacaggacag tttgacgatg  
 540  
 ctgaagattg agtgtggagc tttctgcctt gtaggtgggc gggcctccac gtcaagatct  
 600  
 cttttcctgt cttggagggtg aaaagtcata tctgagaaaa tgtttgcagt gaccctagt  
 660  
 ctgggttaca cagaccagtg ttccttattg acagtgttca ataaggcccc gtcattctcg  
 720  
 ccagtctgtt gttgttctta atgggctcct ccttgaaatg tgtgtgtgtt tgtgtcaaga  
 780  
 ggagttgtgt tctttgtaaa taaaggtaa aaagagaaac caaaaaaaaa aaaaaaa  
 837

<210> 4994

<211> 133

<212> PRT

<213> Homo sapiens

<400> 4994

Met	Asp	Arg	Leu	Ala	Arg	Gly	Thr	Gln	Ser	Ile	Pro	Asn	Asp	Ser	Pro
1			5					10					15		
Ala	Arg	Gly	Glu	Gly	Thr	His	Ser	Glu	Glu	Gly	Phe	Ala	Met	Asp	
		20						25				30			
Glu	Glu	Asp	Ser	Asp	Gly	Glu	Leu	Asn	Thr	Trp	Glu	Leu	Ser	Glu	Gly
		35					40				45				
Thr	Asn	Cys	Pro	Pro	Lys	Glu	Gln	Pro	Gly	Asp	Leu	Phe	Asn	Glu	Asp
		50				55				60					
Trp	Asp	Ser	Glu	Leu	Lys	Ala	Asp	Gln	Gly	Asn	Pro	Tyr	Asp	Ala	Asp
65					70				75					80	
Asp	Ile	Gln	Glu	Ser	Ile	Ser	Gln	Glu	Leu	Lys	Pro	Trp	Val	Cys	Cys
			85					90						95	
Ala	Pro	Gln	Gly	Asp	Met	Ile	Tyr	Asp	Pro	Ser	Trp	His	His	Pro	Pro
		100						105				110			
Pro	Leu	Ile	Pro	Tyr	Tyr	Ser	Lys	Met	Val	Phe	Glu	Thr	Gly	Gln	Phe
		115					120					125			
Asp	Asp	Ala	Glu	Asp											

&lt;210&gt; 4995

&lt;211&gt; 1595

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4995

nntccggatt catggactcc agaagaagtg attcccaaga gattgcaaga gaaacagaag  
60  
tgaggacctt gaagaaactg catggttggg tcagtctgat gaagcacttg aggcttctctg  
120  
agcccaggca gatgtgaact cctggcaagg ggtgggcagg tccagtttgg gaagtcgggg  
180  
tggagcccag ggctggccct ggaatgcagt cctcagagcg gctgtgctca taggtcagaa  
240  
cgggaaacag ccgtacgcat ctcccaggag attgggaacc ttatgaagga aatcgagacc  
300  
cttgtggaag agaagaccaa ggagtcactg gatgtgagca gactgacctg ggaagggtggc  
360  
cccctgctgt atgaaggcat cagtctcacc atgaactcca aactcctgaa tggttcccag  
420  
cgggtggtga tggacggcgt aatctctgac cacgagtgtc aggagctgca gagactgacc  
480  
aatgtggcag caacctcagg agatggctac cggggtcaga cctcccaca tactcccaat  
540  
gaaaagtctt atggtgtcac tgtcttcaaa gccctcaagc tggggcaaga aggcaaagtt  
600  
cctctgcaga gtgccacct gtactacaac gtgacggaga aggtgcggcg catcatggag  
660  
tcctacttcc gcctggatac gccctctac ttttctact ctcactctggt gtgccgcact  
720  
gccatcgaag aggtccaggc agagaggaag gatgatagtc atccagtcca cgtggacaac  
780  
tgcatactga atgccgagac cctcgtgtgt gtcaaagagc cccagccta caccttccgc  
840  
gactacagcg ccatccttta cctaaatggg gacttcgatg gcggaaactt ttatttcact  
900  
gaactggatg ccaagaccgt gacggcagag gtgtagcctc agtgtggaag agccgtggga  
960  
ttctcttcag gcactgaaaa cccacatgga gtgaaggctg tcaccagggg gcagcgtgt  
1020  
gccatcgccc tgtggttcac cctggaccct cgacacagcg agcgggacag ggtgcaggca  
1080  
gatgacctgg tgaagatgct cttcagccca gaagagatgg acctctcca ggagcagccc  
1140  
ctggatgccc agcaggggccc ccccnngaac ctgcacaaga gtctctctca ggcagtgaat  
1200  
cgaagcccaa ggatgagcta tgacagcgtc caggtcagac ggatgggtga ctagacctat  
1260  
ggagaggaac tcttctgcac tctgagctgg ccagcccctc ggggctgcag agcagtgagc  
1320  
ctacatctgc cactcagccg aggggaccct gctcacagcc ttctacatgg tgctactgct  
1380  
cttggagtgg acatgaccag acaccgcacc ccctggatct ggctgagggc tcaggacaca  
1440



ggcccagcca cccccagggg cctccacagg ccgctgcata acagcgatac agtacttaag  
 1500  
 tgtctgtgta tacaacaaaa gaataaatga ttcattggtt tttttacttg gtttgttcag  
 1560  
 acaatggaaa tttgcccatt ctgtcaaaaa aaaaa  
 1595

<210> 4996

<211> 217

<212> PRT

<213> Homo sapiens

<400> 4996

Met	Lys	Glu	Ile	Glu	Thr	Leu	Val	Glu	Glu	Lys	Thr	Lys	Glu	Ser	Leu
1				5					10					15	
Asp	Val	Ser	Arg	Leu	Thr	Arg	Glu	Gly	Gly	Pro	Leu	Leu	Tyr	Glu	Gly
			20					25					30		
Ile	Ser	Leu	Thr	Met	Asn	Ser	Lys	Leu	Leu	Asn	Gly	Ser	Gln	Arg	Val
		35					40					45			
Val	Met	Asp	Gly	Val	Ile	Ser	Asp	His	Glu	Cys	Gln	Glu	Leu	Gln	Arg
	50					55				60					
Leu	Thr	Asn	Val	Ala	Ala	Thr	Ser	Gly	Asp	Gly	Tyr	Arg	Gly	Gln	Thr
65					70				75					80	
Ser	Pro	His	Thr	Pro	Asn	Glu	Lys	Phe	Tyr	Gly	Val	Thr	Val	Phe	Lys
			85					90						95	
Ala	Leu	Lys	Leu	Gly	Gln	Glu	Gly	Lys	Val	Pro	Leu	Gln	Ser	Ala	His
			100					105					110		
Leu	Tyr	Tyr	Asn	Val	Thr	Glu	Lys	Val	Arg	Arg	Ile	Met	Glu	Ser	Tyr
		115					120					125			
Phe	Arg	Leu	Asp	Thr	Pro	Leu	Tyr	Phe	Ser	Tyr	Ser	His	Leu	Val	Cys
	130					135					140				
Arg	Thr	Ala	Ile	Glu	Glu	Val	Gln	Ala	Glu	Arg	Lys	Asp	Asp	Ser	His
145				150					155					160	
Pro	Val	His	Val	Asp	Asn	Cys	Ile	Leu	Asn	Ala	Glu	Thr	Leu	Val	Cys
			165					170						175	
Val	Lys	Glu	Pro	Pro	Ala	Tyr	Thr	Phe	Arg	Asp	Tyr	Ser	Ala	Ile	Leu
		180						185					190		
Tyr	Leu	Asn	Gly	Asp	Phe	Asp	Gly	Gly	Asn	Phe	Tyr	Phe	Thr	Glu	Leu
		195					200						205		
Asp	Ala	Lys	Thr	Val	Thr	Ala	Glu	Val							
	210					215									

<210> 4997

<211> 1838

<212> DNA

<213> Homo sapiens

<400> 4997

ntgcacgggg ccactaggac cctcggcgtc ccttcccctc ccccgccctg cccctctctc  
 60  
 cgccgcgcgg acccgggcgt tctcggcgcc cagcttttga gctcgcgtcc ccaggccggc  
 120  
 ggggggggag gggaagagag gggaccctgg gacccccgcc cccccaccc ggccgcccct  
 180

gccccccggg acccgagaa gatgtcttcg cggacgggtgc tggccccggg caacgatcgg  
240  
aactcggaca cgcattggcac cttggggcagt ggccgctcct cggacaaagg cccgtcctgg  
300  
tccagccgct cactgggtgc ccgttgccgg aactccatcg cctcctgtcc cgaggagcag  
360  
ccccacgtgg gcaactaccg cctgctgagg accattggga agggcaactt tgccaaagtc  
420  
aagctggctc ggacatcct cactgggtcgg gaggttgcca tcaagattat cgacaaaacc  
480  
cagctgaatc ccagcagcct gcagaagctg ttccgagaag tccgcatcat gaagggccta  
540  
aaccacccca acatcgtgaa gctctttgag gtgattgaga ctgagaagac gctgtacctg  
600  
gtgatggagt acgcaagtgc tgggtgagccg cccaccctct ccgccctgcc cctgtgccac  
660  
ctccccctgc cgctgcacct gaccctgacc ccgctcggcc tctgccctgc aggagaagtg  
720  
tttgactacc tcgtgtcgca tggccgcatg aaggagaagg aagctcgagc caagttccga  
780  
cagattgttt cggctgtgca ctattgtcac cagaaaaata ttgtacacag ggacctgaag  
840  
gctgagaacc tcttgctgga tgccgaggcc aacatcaaga ttgctgactt tggcttcagc  
900  
aacgagttca cgctgggac gaagctggac acgttctgcg ggagcccccc atatgccgcc  
960  
ccggagctgt ttccaggcaa gaagtacgac gggccggagg tggacatctg gagcctggga  
1020  
gtcactcctgt acaccctcgt cagcggctcc ctgcccttcg acgggcacaa cctcaaggag  
1080  
ctgccccgagc gactactcaa aggggaagtac cgggtccctt tctacatgtc aacagactgt  
1140  
gagagcatcc tgccggagatt tttgggtgctg aaccagcta aacgctgtac tctcgagcaa  
1200  
atcatgaaag acaaattgat caacatcggc tatgaggggtg aggagttgaa gccatacaca  
1260  
gagcccgagg aggacttcgg ggacaccaag agaattgagg tgatgggtggg tatgggctac  
1320  
acacgggaag aaatcaaaga gtccttgacc agccagaagt acaacgaagt gaccgccacc  
1380  
tacctcctgc tgggcaggaa gactgagccc gacgagcacg ggggaggcgg agctgaagga  
1440  
ggagcggctg ccaggccgga agggcagctg cagcaccgcg gggagtggga gtcgagggct  
1500  
gccccctcc agcccatgg tcagcagcgc ccacaacccc aacaaggcag agatcccaga  
1560  
gcggcggaag gacagcacga gcacccccgt gactgaccag ggctgggggg cagggtcggg  
1620  
ggcgccacct gggccacatt cctcaggccc tgccttcac tcattcccca gacggaactc  
1680  
cttcttacca actccttctt ctaccattc attcattcaa caaacattta tcgagtgcct  
1740  
ctgtttgcct gagctcagtt tatacactaa catttgatgt tagcgtataa attagtgttc  
1800

tgtgtcaaaag aagtgcagaa cgtactcttg gcagaaagga ttttaatacag gaaattaagt  
 1860  
 gcttttaaaa atgtgggaaa ggccaggc  
 1888

<210> 4998  
 <211> 464  
 <212> PRT  
 <213> Homo sapiens

<400> 4998

Met	Ser	Ser	Arg	Thr	Val	Leu	Ala	Pro	Gly	Asn	Asp	Arg	Asn	Ser	Asp	1	5	10	15
Thr	His	Gly	Thr	Leu	Gly	Ser	Gly	Arg	Ser	Ser	Asp	Lys	Gly	Pro	Ser	20	25	30	
Trp	Ser	Ser	Arg	Ser	Leu	Gly	Ala	Arg	Cys	Arg	Asn	Ser	Ile	Ala	Ser	35	40	45	
Cys	Pro	Glu	Glu	Gln	Pro	His	Val	Gly	Asn	Tyr	Arg	Leu	Leu	Arg	Thr	50	55	60	
Ile	Gly	Lys	Gly	Asn	Phe	Ala	Lys	Val	Lys	Leu	Ala	Arg	His	Ile	Leu	65	70	75	80
Thr	Gly	Arg	Glu	Val	Ala	Ile	Lys	Ile	Ile	Asp	Lys	Thr	Gln	Leu	Asn	85	90	95	
Pro	Ser	Ser	Leu	Gln	Lys	Leu	Phe	Arg	Glu	Val	Arg	Ile	Met	Lys	Gly	100	105	110	
Leu	Asn	His	Pro	Asn	Ile	Val	Lys	Leu	Phe	Glu	Val	Ile	Glu	Thr	Glu	115	120	125	
Lys	Thr	Leu	Tyr	Leu	Val	Met	Glu	Tyr	Ala	Ser	Ala	Gly	Glu	Pro	Pro	130	135	140	
Thr	Leu	Ser	Ala	Leu	Pro	Leu	Cys	His	Leu	Pro	Leu	Pro	Leu	His	Leu	145	150	155	160
Thr	Leu	Thr	Pro	Leu	Gly	Leu	Cys	Pro	Ala	Gly	Glu	Val	Phe	Asp	Tyr	165	170	175	
Leu	Val	Ser	His	Gly	Arg	Met	Lys	Glu	Lys	Glu	Ala	Arg	Ala	Lys	Phe	180	185	190	
Arg	Gln	Ile	Val	Ser	Ala	Val	His	Tyr	Cys	His	Gln	Lys	Asn	Ile	Val	195	200	205	
His	Arg	Asp	Leu	Lys	Ala	Glu	Asn	Leu	Leu	Leu	Asp	Ala	Glu	Ala	Asn	210	215	220	
Ile	Lys	Ile	Ala	Asp	Phe	Gly	Phe	Ser	Asn	Glu	Phe	Thr	Leu	Gly	Ser	225	230	235	240
Lys	Leu	Asp	Thr	Phe	Cys	Gly	Ser	Pro	Pro	Tyr	Ala	Ala	Pro	Glu	Leu	245	250	255	
Phe	Gln	Gly	Lys	Lys	Tyr	Asp	Gly	Pro	Glu	Val	Asp	Ile	Trp	Ser	Leu	260	265	270	
Gly	Val	Ile	Leu	Tyr	Thr	Leu	Val	Ser	Gly	Ser	Leu	Pro	Phe	Asp	Gly	275	280	285	
His	Asn	Leu	Lys	Glu	Leu	Arg	Glu	Arg	Val	Leu	Lys	Gly	Lys	Tyr	Arg	290	295	300	
Val	Pro	Phe	Tyr	Met	Ser	Thr	Asp	Cys	Glu	Ser	Ile	Leu	Arg	Arg	Phe	305	310	315	320
Leu	Val	Leu	Asn	Pro	Ala	Lys	Arg	Cys	Thr	Leu	Glu	Gln	Ile	Met	Lys	325	330	335	
Asp	Lys	Trp	Ile	Asn	Ile	Gly	Tyr	Glu	Gly	Glu	Glu	Leu	Lys	Pro	Tyr				

<400> 4999  
gcggccgcg cccgatggggg caccgtggac ttgcgcgaga tgctggctgt gtcagtgtgt  
60  
gccgcagtcc gcggcggcg cagaggtgagg cgcgcccgag agagcaacgt cctccacgag  
120  
aagtccaagg ggaagacgag caggggagcc gaggacaaga tgaccagcgg cgacgtgtgt  
180  
tccaaccgca agatgttcta cctgctcaag accgccttcc ccagcgtcca gattaatact  
240  
gaggaacacg tggatgcagc tgatcaggag gttatcttgt gggatcataa gattcctgag  
300  
gatatcctaa aggaagtaac tactcctaaa gaggtaccag cagaaaagtgt tactgtctgg  
360  
attgacccac ttgatgctac acaggaatat acagaggatc ttcgaaagta cgtcactact  
420  
atgggtgtgtg tggctgtaaa tggtaaacc c atgctaggag ttatacataa gccattttcc  
480  
gaatatacag cttgggcaat ggtagatggg ggttcaaagt tgaaagcccg ctcttcctac  
540  
aatgagaaga cccaaggat cgttgtgtct cgttcccatt cagggatggg caaacaggtc  
600  
gctcttcaga cttttggaaa ccagactaca attatcccag ctgggtgggtgc tggttataaa  
660  
gttttagcac ttttggatgt gcctgataag agtcaagaaa aagctgattt atacatccat  
720  
gtgacataca tcaaaaagtg ggatatatgt gctggtaatg ccatcttaaa agccctaggg  
780  
gggcatatga ctaccctgag tggatgaagaa atcagttaca ctgggttcaga cggcattgaa  
840  
gggggactcc ttgctagcat cagaatgaac caccaggccc tggtcagaaa actcccagat  
900  
ctagaaaaga caggacataa atgagcataa ctgattacag ggtacagttc ttcacagctg  
960

aaatgggttag cctgagatgc tggaagcttc aaaggattgg tggagactat gcatgggttaa  
 1020  
 ggccatcccg aacttttttaa agtattttatg aagcatcaga gacttatttt ccctgtaata  
 1080  
 gaatgcaaaa tcagggaaaaa tgggttgctt tgtgtctcaa gtattgtctt tatttttgag  
 1140  
 actattttca tacagttgtc atacacaagg cgcataatata tatttgtgaa ttaaaatctg  
 1200  
 tagctgagtc tacattgtta tgagtcacca ttttcacaca acatcatgaa tcttcactgt  
 1260  
 tagtactttc atatagaatt cggttgaagg aaagattgat ttttgtgtag atgtttaata  
 1320  
 taactttaca actatatctc attgaaaata aagtcattgg ggatttttac ctctaatttg  
 1380  
 gatggaaagc acaagaagcc acacattcat taatatgcaa caaatgttgt atttatgtta  
 1440  
 ctgaatattt ctatggatta aaatagaaaa agtttaattg attttttctt ttaaatttta  
 1500  
 ataacaggtt caccagctgg tagaaaatag agacacatga tgatttgcac tgaataaatt  
 1560  
 tctgtgtgta tgtgtgtgtg ttgttttggt tttataaaga aaagtgtgtt tgtacccatg  
 1620  
 agttcagcat  
 1630

<210> 5000

<211> 307

<212> PRT

<213> Homo sapiens

<400> 5000

Ala	Ala	Ala	Ala	Asp	Gly	Gly	Thr	Val	Asp	Leu	Arg	Glu	Met	Leu	Ala
1				5					10					15	
Val	Ser	Val	Leu	Ala	Ala	Val	Arg	Gly	Gly	Asp	Glu	Val	Arg	Arg	Val
			20					25					30		
Arg	Glu	Ser	Asn	Val	Leu	His	Glu	Lys	Ser	Lys	Gly	Lys	Thr	Arg	Glu
			35				40					45			
Gly	Ala	Glu	Asp	Lys	Met	Thr	Ser	Gly	Asp	Val	Leu	Ser	Asn	Arg	Lys
			50			55				60					
Met	Phe	Tyr	Leu	Leu	Lys	Thr	Ala	Phe	Pro	Ser	Val	Gln	Ile	Asn	Thr
65					70				75					80	
Glu	Glu	His	Val	Asp	Ala	Ala	Asp	Gln	Glu	Val	Ile	Leu	Trp	Asp	His
			85					90						95	
Lys	Ile	Pro	Glu	Asp	Ile	Leu	Lys	Glu	Val	Thr	Thr	Pro	Lys	Glu	Val
			100					105					110		
Pro	Ala	Glu	Ser	Val	Thr	Val	Trp	Ile	Asp	Pro	Leu	Asp	Ala	Thr	Gln
			115				120					125			
Glu	Tyr	Thr	Glu	Asp	Leu	Arg	Lys	Tyr	Val	Thr	Thr	Met	Val	Cys	Val
			130			135					140				
Ala	Val	Asn	Gly	Lys	Pro	Met	Leu	Gly	Val	Ile	His	Lys	Pro	Phe	Ser
145				150					155					160	
Glu	Tyr	Thr	Ala	Trp	Ala	Met	Val	Asp	Gly	Gly	Ser	Asn	Val	Lys	Ala
			165					170						175	
Arg	Ser	Ser	Tyr	Asn	Glu	Lys	Thr	Pro	Arg	Ile	Val	Val	Ser	Arg	Ser

```
<210> 5001
<211> 3427
<212> DNA
<213> Homo sapiens
```

tcgggaccga	gggacgcggg	tactccacag	gatccgctga	acatagggatg	ttgccacaaa
60	atctacctcg	tgtatTTTTc	tctttcactc	atgagctgca	caattgcaga
120	atgtctgcag	actgtgttga	aaaactctga	agaacctaat	taacacagga
180	gtgattctaa	gtctgtgtaa	caagatatta	ctcattagt	aatgtgtcag
240	gaatgctgca	gataacagca	agtaggttct	cctttatttc	tgaagtattc
300	ccatcagtaa	gacggacttt	tctaactctgt	tcttgaggat	attaatggaa
360	tccactcaag	acgagaggca	gatcaatact	gaatatgctg	tgtcattgtt
420	aaactgtttt	atgaacagca	gttgtttact	gacatagtgt	taattgttga
480	ttcccttgct	ataagatggg	tcttgcaaca	tgtagctctt	atttcagggc
540	agtggactaa	gtgaaagcaa	acaaacccat	gtacacctga	ggaatgtcga
600	ttacagataa	taataactta	tgcatcacg	ggtaacttgg	caatgaatga
660	gaacagcttt	atgaaacagc	ttgcttccta	caggtagaag	atgtgttaca
720	gaatatttaa	ttaaaaaaat	aaatgcagag	aattgtgtac	gattgttgag
780	ctcttcagtt	gtgaggaatt	aaaacagagt	gctaaaagaa	tgggtggagca
840	gctgtgtatc	atcaggacgc	gttcatgcag	ctgttacatg	acctactgat
900					agatattctc

agtagtgaca atttaaagt agaaaaggaa gaaaccgttc gagaagctgc tatgctgtgg  
960  
ctagagtata acacagaatc acgatcccag tatttgtctt ctgttcttag ccaaatcaga  
1020  
attgatgcac tttcagaagt aacacagaga gcttggtttc aaggctctgcc acccaatgat  
1080  
aagtcagtgg tggttcaagg tctgtataag tccatgcca agtttttcaa accaagactt  
1140  
gggatgacta aagaggaaat gatgattttc attgaagcat cttcagaaaa tcctttagt  
1200  
ctttactctt ctgtctgtta cagcccccaa gcagaaaaag tttacaagtt atgtagccca  
1260  
ccagctgatt tgcataaggt tgggaccgtt gtaactcctg ataatgatat ctacatagca  
1320  
gggggtcaag ttcctctgna aaaacacaaa aacaaatcac agtaaaacaa gcaaacttca  
1380  
gactgccttc agaactgtga attgctttta ttggtttgat gcacagcaaa atacctggtt  
1440  
tccaaagacc ccaatgcttt ttgtccgcat aaagccatct ttggtttgct gtgaaggcta  
1500  
tatctatgca attggaggag atagcgtagg tggagaactt aatcggagga ccgtagaaa  
1560  
atacgacact gagaaagatg agtggacgat ggtaagccct ttacctgtg cttggcaatg  
1620  
gagtgcagca gttgtggttc atgactgcat ttatgtgatg aactgaacc tcatgtactg  
1680  
ttattttcca aggtctgact catgggtaga aatggccatg agacagacta gtaggtcctt  
1740  
tgcttcagct gcagcttttg gtgataaaat tttctatatt ggaggggtgc atattgctac  
1800  
caattccggc ataagactcc cctctggcac tgtagatggg tcttcagtaa ctgtggaaat  
1860  
ttatgatgtg aataaaaatg agtggaaaat ggcagccaac atccctgcta agaggctact  
1920  
tgaccctgt gttagagctg ttgtgatctc aaattctcta tgtgtgttta tgcgagaaac  
1980  
ccacttaa at gagcgagcta aatacgtcac ctaccaatat gacctggaac ttgaccggtg  
2040  
gtctctgagg cagcatatat ctgaacgtgt actgtgggac ttggggagag attttcgatg  
2100  
cactgtgggg aaactctatc catcctgctt tgaagagtct ccatggaaac caccaactta  
2160  
tcttttttca acggatggga cagaagagtt tgaactggat ggagaaatgg ttgcactacc  
2220  
acctgtatag tggggaagtt cagggagtgc acgcctgagt tatgtgcttt gtcattttct  
2280  
ttgctaaaca aaagaggcta tgaaagaact aaatatgagt acataaaatt ctatctttga  
2340  
taaattttat ttttatgccc tacttaatat ttgcatcagt ataatatata tcagtgagtc  
2400  
ttacagaaag atatgcttcc ataatatgaa atagattatt caataattga gaaactttat  
2460  
gtgtaatcat gagagtataa gaatctggat tatctaact tgtagccct gtgtatgtac  
2520

agttcaaaaa gttcatttat aaaagtagtt tctgttctct agtgtgatgt atcacaaatt  
 2580  
 gtgctgaggt tatttttagta tgtgtgtttc attcccggtgc ttctgttctg aagtccctgga.  
 2640  
 atacagtttt cagtgttaatt aattcaactg cacttaacac taatgtccgt gttggtatag  
 2700  
 aaatgtctaa atcctatact ctagttgagg aagatcttcc ataattttat ggtattacac  
 2760  
 agggaaagct atgactgcag gatcagtcta actatactat taggtgcatg tattctcttt  
 2820  
 tcactaactt atacttgtct atctagaata caggtcttcc agtcagctgg tcatttacca  
 2880  
 ggtgtggact taagttgctg ggcttgcaagt aagaattgcc agccactcat tgtgcgggtc  
 2940  
 tgcgtggagc tttaatcaga aaaagcctcc actttctgta ttatgttaac attggctcat  
 3000  
 gcatataact atctgctgct gatgtagttc tccatcttca agatttagag tgggttaacc  
 3060  
 aggtcattac atcttaattt aataacaagc attactgtag agtgattgtg tatagatctg  
 3120  
 ttagctgtca ggggtgtgtt tttttaacct gttgtgtgctg tgtgggggtt aggattagta  
 3180  
 aggtgaactg ttcaggaatt ctctgcacta gctgtgcaga agagcagata actagcgtg  
 3240  
 ctctggcatt aatcccagga accactagca gtagtggggc gccgccaatc taacatgagc  
 3300  
 acaggtgctt catgacaaac attactagca tgttcaactg caccatgttc tggcactgta  
 3360  
 ttttgaatga cattaattta ttaaataaat tgtatatatt caaaaaaaaa aaaaaaaaaa  
 3420  
 aaaaaaa  
 3427

&lt;210&gt; 5002

&lt;211&gt; 335

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5002

Met	Ser	Thr	Gln	Asp	Glu	Arg	Gln	Ile	Asn	Thr	Glu	Tyr	Ala	Val	Ser
1				5					10					15	
Leu	Leu	Glu	Gln	Leu	Lys	Leu	Phe	Tyr	Glu	Gln	Gln	Leu	Phe	Thr	Asp
		20						25					30		
Ile	Val	Leu	Ile	Val	Glu	Gly	Thr	Glu	Phe	Pro	Cys	His	Lys	Met	Val
	35						40					45			
Leu	Ala	Thr	Cys	Ser	Ser	Tyr	Phe	Arg	Ala	Met	Phe	Met	Ser	Gly	Leu
	50					55				60					
Ser	Glu	Ser	Lys	Gly	Thr	His	Val	His	Leu	Arg	Asn	Val	Asp	Ala	Ala
65				70					75					80	
Thr	Leu	Gln	Ile	Ile	Ile	Thr	Tyr	Ala	Tyr	Thr	Gly	Asn	Leu	Ala	Met
			85					90					95		
Asn	Asp	Ser	Thr	Val	Glu	Gln	Leu	Tyr	Glu	Thr	Ala	Cys	Phe	Leu	Gln
		100					105					110			
Val	Glu	Asp	Val	Leu	Gln	Arg	Cys	Arg	Glu	Tyr	Leu	Ile	Lys	Lys	Ile



115	120	125
Asn Ala Glu Asn Cys Val Arg Leu Leu Ser Phe Ala Asp Leu Phe Ser		
130	135	140
Cys Glu Glu Leu Lys Gln Ser Ala Lys Arg Met Val Glu His Lys Phe		
145	150	155
Thr Ala Val Tyr His Gln Asp Ala Phe Met Gln Leu Leu His Asp Leu		
165	170	175
Leu Ile Asp Ile Leu Ser Ser Asp Asn Leu Asn Val Glu Lys Glu Glu		
180	185	190
Thr Val Arg Glu Ala Ala Met Leu Trp Leu Glu Tyr Asn Thr Glu Ser		
195	200	205
Arg Ser Gln Tyr Leu Ser Ser Val Leu Ser Gln Ile Arg Ile Asp Ala		
210	215	220
Leu Ser Glu Val Thr Gln Arg Ala Trp Phe Gln Gly Leu Pro Pro Asn		
225	230	235
Asp Lys Ser Val Val Val Gln Gly Leu Tyr Lys Ser Met Pro Lys Phe		
245	250	255
Phe Lys Pro Arg Leu Gly Met Thr Lys Glu Glu Met Met Ile Phe Ile		
260	265	270
Glu Ala Ser Ser Glu Asn Pro Cys Ser Leu Tyr Ser Ser Val Cys Tyr		
275	280	285
Ser Pro Gln Ala Glu Lys Val Tyr Lys Leu Cys Ser Pro Pro Ala Asp		
290	295	300
Leu His Lys Val Gly Thr Val Val Thr Pro Asp Asn Asp Ile Tyr Ile		
305	310	315
Ala Gly Gly Gln Val Pro Leu Xaa Lys His Lys Asn Lys Ser Gln		
325	330	335

&lt;210&gt; 5003

&lt;211&gt; 3729

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5003

```

ncaggtgggc ccttgcccac cccaccctgg gaaggctggg ccaggatggg gcaggcacct
60
caccccgccc aggaacagga acgggcacca tctcggggac tgatgttttt tgaatggcgc
120
tatccaccct gccctgctcg gcctggctgt gcaggcctct tgggtaccacg tctgttcgta
180
atgaccgtaa caactctatt ttcttcaca gatgactctg gggacgacga cgaggctacc
240
acccagccg acaagagcga gctgcaccac accctgaaga atctttccct gaagttagat
300
gacctcagca cgtgcaatga cctcatcgcc aagcatggcg ctgccctcca gcgctccctg
360
aatgagctgg acggcctcaa gatcccatct gagagtgggg agaagctgaa ggtggtgaat
420
gagcgggcca ccctcttccg catcacatcc aatgctatga tcaacgcctg cagggacttc
480
ttggaactag cagagataca cagtcggaaa tggcagcggg cactgcagta tgagcaggag
540
cagcgcgtgc acttggagga aaccattgag cagctggcga agcagcaca cagcctcgag
600

```

cgggccttcc acagtgeccc tggccggccg gccaacccct ccaagagctt cattgagggg  
660  
agcctcttga ctcccaaagg agaggacagt gaggaagatg aagataaccga gtactttgat  
720  
gccatggaag actccacatc cttcatcacc gtgatcaccg aggccaagga agacagcaga  
780  
aaagctgaag gtagcaccgg gacaagttcc gtggactgga gctcagcaga caatgtacta  
840  
gatggtgcct cgctcgtgcc caagggttca tccaaagtca agaggcgagt ccgcattccc  
900  
aacaagccca actacagcct taacctctgg agcatcatga agaactgcat cggccgggag  
960  
ctctccagga tccccatgcc ggtgaacttc aatgagcccc tgtccatgct ccagcggctg  
1020  
acagaggacc tggagtacca ccacctgctg gacaaggcag tgcactgcac cagctcagt  
1080  
gagcagatgt gcctggtggc cgccttctct gtgtcctcct actccaccac agtgcaccgc  
1140  
atcgccaagc ccttcaaccc catgctgggg gagacctcg agctggaccg cctcgacgac  
1200  
atgggcctgc gctccctctg tgagcaggtg agccaccacc cccctcagc tgcgcactac  
1260  
gtgttctcca agcatggctg gagcctctgg caggagatca ccatctccag caagttccgg  
1320  
ggaaaataca tctccatcat gccgctaggt gccatccact tagaattcca ggccagtggg  
1380  
aatcactacg tgtggaggaa gagcacctca actgttcaca acatcatcgt gggcaagctc  
1440  
tggatcgacc agtcagggga catcgagatt gtgaaccata agaccaatga ccggtgccag  
1500  
ctgaagtcc tgcctacag ctacttctcc aaagaggcag cccggaagggt gacaggagt  
1560  
gtgagtgaca gccagggcaa ggcccattac gtgctgtccg gctcgtggga tgaacaaatg  
1620  
gagtgtcca aggtcatgca tagcagtccc agcagcccca gctctgacgg gaagcagaag  
1680  
acagtgtacc agaccctgtc agccaagctg ctgtggaaga agtaccctgt gccggagaac  
1740  
gcggagaaca tgtactactt ctcagagctg gccctgaccc tcaacgagca cgaggagggc  
1800  
gtagcgccaa ccgacagccg cctgcggccc gaccagcggc tgatggagaa gggccgttgg  
1860  
gacgaggcca ataccgagaa gcagcggctg gaggagaagc agcgcctgtc gcggcgccgg  
1920  
cggctggagg cctgcggggc gggcagcagc tgcagctcgg aggaaggatga ggccggcgcg  
1980  
gaagggcgcc ccggagggga ggaaaggggt gcccggtgg gggtgccgca gggacggatt  
2040  
ccgggggagc agggcacaag cccaccacc agccactgt gcctgcccag cagagaagga  
2100  
ggcggtgcc tacacgccac tgtggtttga gaagaggctg gatccgctga ctggggagat  
2160  
ggcctgtgtg tacaagggcg gctactggga ggccaaggag aagcaagact ggcataatgtg  
2220

ccccaacatc ttctgagcgc cacccttgca acaaatacag gcgcctgcac agcctggccc  
2280  
acctgttcat taatgcactc aatttagtac tgaatggtct ttctcccagc ccattcccag  
2340  
cccttcctat ttcccttccct attttttttt cccccacac tttcttgga cttccacctt  
2400  
ggaaggagga agggctgacc tgggttctct ccagcccca ggtgcgcgg gtcacccgtg  
2460  
ccccttcatt atggacctgg gccctaccgg aaccctgcc ccagttacca caactcaggc  
2520  
cggctggccc gggccatggg ctgcgcaaat caccagcccc caaccaggg aggaactggc  
2580  
ccctcctagg gagcctcttc gactttttta gaaaaatgat ctccatttct ttccagccat  
2640  
gatgtttagt aaatatTTTT agtaccgcac ttagcagaca gctttccaag tgtgctttct  
2700  
tgccacaaaa gtgtcctggc aagagccctt tatttttaag acatcaggaa gccagaccgc  
2760  
tttgagtggg gagaattttg tagctcaaca tatcaagtcc tcgatgggat ctgagctgcc  
2820  
cacaccccca cctgccaaagg cccacagag cccaaaacag aagggggctg cccagccca  
2880  
gcagagcaca gagtttctgg agctcccatc cacagatgca ggagggggta ctgatggtaa  
2940  
cccccatgtg gatttgaggg cagcagtcct tggcctcacc ctagccagcc tgggtggctc  
3000  
cctagcccca agaggccagg aagggtctga aggcagggcc tgcaggtgct ccccgccctg  
3060  
agaccaggc cccaaatcag caataatgaa caaaccttg gccagcctg ggctgggtgac  
3120  
ctgggcacca gagaccttg atccctcttc atcctaggag gccctaggg gtgccccatc  
3180  
tcagtgtccc ctgaactctt tatttgcta atttatat atatatatga gatataaaa  
3240  
tatataaaa atagctattt tgcttaaatt tctacagtat gtaaaagtga aaaaatgatg  
3300  
aagacgggtg cacctgtctg agtttgccc tcatgtgagc tgtgccctc cctctcctca  
3360  
tgcccccttc cagcggttc tgccaaccat ggggggctgg accaccatgg cactgaccc  
3420  
agccctcag aatccacac tccaatcctt tccatttcag tttagtccta aaagttcatc  
3480  
acagggtctt tctttctact ccaggactgg tttgttttt atatatataa aaaaaaaag  
3540  
tgaaaacacc aatgtgtgaa atgccttaca atgccactg gagaggcggg gcgggggtggg  
3600  
gcaggatggc cccactaggg ctctacaga gctgtggaat gtacctctc ccaactgt  
3660  
tttgtttagc agcacctttt gaccagtaat aaaaaacctt ggctttggag tttccactg  
3720  
aaaaaaaaa  
3729

&lt;210&gt; 5004

&lt;211&gt; 642

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5004

```

Ser Ser Thr Asp Asp Ser Gly Asp Asp Asp Glu Ala Thr Thr Pro Ala
1      5      10      15
Asp Lys Ser Glu Leu His His Thr Leu Lys Asn Leu Ser Leu Lys Leu
20      25      30
Asp Asp Leu Ser Thr Cys Asn Asp Leu Ile Ala Lys His Gly Ala Ala
35      40      45
Leu Gln Arg Ser Leu Asn Glu Leu Asp Gly Leu Lys Ile Pro Ser Glu
50      55      60
Ser Gly Glu Lys Leu Lys Val Val Asn Glu Arg Ala Thr Leu Phe Arg
65      70      75      80
Ile Thr Ser Asn Ala Met Ile Asn Ala Cys Arg Asp Phe Leu Glu Leu
85      90      95
Ala Glu Ile His Ser Arg Lys Trp Gln Arg Ala Leu Gln Tyr Glu Gln
100     105     110
Glu Gln Arg Val His Leu Glu Glu Thr Ile Glu Gln Leu Ala Lys Gln
115     120     125
His Asn Ser Leu Glu Arg Ala Phe His Ser Ala Pro Gly Arg Pro Ala
130     135     140
Asn Pro Ser Lys Ser Phe Ile Glu Gly Ser Leu Leu Thr Pro Lys Gly
145     150     155     160
Glu Asp Ser Glu Glu Asp Glu Asp Thr Glu Tyr Phe Asp Ala Met Glu
165     170     175
Asp Ser Thr Ser Phe Ile Thr Val Ile Thr Glu Ala Lys Glu Asp Ser
180     185     190
Arg Lys Ala Glu Gly Ser Thr Gly Thr Ser Ser Val Asp Trp Ser Ser
195     200     205
Ala Asp Asn Val Leu Asp Gly Ala Ser Leu Val Pro Lys Gly Ser Ser
210     215     220
Lys Val Lys Arg Arg Val Arg Ile Pro Asn Lys Pro Asn Tyr Ser Leu
225     230     235     240
Asn Leu Trp Ser Ile Met Lys Asn Cys Ile Gly Arg Glu Leu Ser Arg
245     250     255
Ile Pro Met Pro Val Asn Phe Asn Glu Pro Leu Ser Met Leu Gln Arg
260     265     270
Leu Thr Glu Asp Leu Glu Tyr His His Leu Leu Asp Lys Ala Val His
275     280     285
Cys Thr Ser Ser Val Glu Gln Met Cys Leu Val Ala Ala Phe Ser Val
290     295     300
Ser Ser Tyr Ser Thr Thr Val His Arg Ile Ala Lys Pro Phe Asn Pro
305     310     315     320
Met Leu Gly Glu Thr Phe Glu Leu Asp Arg Leu Asp Asp Met Gly Leu
325     330     335
Arg Ser Leu Cys Glu Gln Val Ser His His Pro Pro Ser Ala Ala His
340     345     350
Tyr Val Phe Ser Lys His Gly Trp Ser Leu Trp Gln Glu Ile Thr Ile
355     360     365
Ser Ser Lys Phe Arg Gly Lys Tyr Ile Ser Ile Met Pro Leu Gly Ala
370     375     380
Ile His Leu Glu Phe Gln Ala Ser Gly Asn His Tyr Val Trp Arg Lys

```

385                      390                      395                      400  
 Ser Thr Ser Thr Val His Asn Ile Ile Val Gly Lys Leu Trp Ile Asp  
                          405                      410                      415  
 Gln Ser Gly Asp Ile Glu Ile Val Asn His Lys Thr Asn Asp Arg Cys  
                          420                      425                      430  
 Gln Leu Lys Phe Leu Pro Tyr Ser Tyr Phe Ser Lys Glu Ala Ala Arg  
                          435                      440                      445  
 Lys Val Thr Gly Val Val Ser Asp Ser Gln Gly Lys Ala His Tyr Val  
                          450                      455                      460  
 Leu Ser Gly Ser Trp Asp Glu Gln Met Glu Cys Ser Lys Val Met His  
 465                      470                      475                      480  
 Ser Ser Pro Ser Ser Pro Ser Ser Asp Gly Lys Gln Lys Thr Val Tyr  
                          485                      490                      495  
 Gln Thr Leu Ser Ala Lys Leu Leu Trp Lys Lys Tyr Pro Leu Pro Glu  
                          500                      505                      510  
 Asn Ala Glu Asn Met Tyr Tyr Phe Ser Glu Leu Ala Leu Thr Leu Asn  
                          515                      520                      525  
 Glu His Glu Glu Gly Val Ala Pro Thr Asp Ser Arg Leu Arg Pro Asp  
                          530                      535                      540  
 Gln Arg Leu Met Glu Lys Gly Arg Trp Asp Glu Ala Asn Thr Glu Lys  
 545                      550                      555                      560  
 Gln Arg Leu Glu Glu Lys Gln Arg Leu Ser Arg Arg Arg Arg Leu Glu  
                          565                      570                      575  
 Ala Cys Gly Pro Gly Ser Ser Cys Ser Ser Glu Glu Gly Glu Ala Gly  
                          580                      585                      590  
 Arg Glu Gly Arg Pro Gly Gly Glu Glu Arg Gly Ala Arg Val Gly Val  
                          595                      600                      605  
 Pro Gln Gly Arg Ile Pro Gly Glu Gln Ala Thr Ser Pro Pro Thr Ser  
                          610                      615                      620  
 Pro Leu Cys Leu Pro Ser Arg Glu Gly Gly Gly Cys Leu His Ala Thr  
 625                      630                      635                      640  
 Val Val

&lt;210&gt; 5005

&lt;211&gt; 1120

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5005

ntcgggctgt tgctgtggtt tcttgagttg ctgctgctgc ggcggcggca gcggcgtctg  
 60  
 tgcttggtga ggtgtcggcc tctgggcgga tgttgacatt gtgttggtgt tattgctgat  
 120  
 ggtaatggcg gcggcggtgg cggcgacggt ccagacccca tcccctctgt agccggagcc  
 180  
 gagacagccg acagcgaact ccgcggcctc ggagccggcg gcagcggcga ctcccctcag  
 240  
 cctccgccgc ctgcgccgcc ggtaccccg gccaacccc gggagtcagg ccctttgggc  
 300  
 aggggagctc ggaggctcag gatggcggat ttcgacgaaa tctatgagga agaggaggac  
 360  
 gaggagcggg ccctggagga gcagctgctc aagtactcgc cggacccggt ggtcgtccgc  
 420

ggctccggtc acgtcacctg atttgactg agcaacaaat ttgaatctga attcccttct  
 480  
 tcattaactg gaaaagtagc tcctgaagaa tttaaagcca gcatcaacag agttaacagt  
 540  
 tgtcttaaga agaacccttc tgtaaatgta cgttggctac tttgtggctg cctttgttgc  
 600  
 tgctgcacat taggttgcag tatgtggcca gttatttgcc tcagtaaaag aacacgaaga  
 660  
 tcgattgaga agttattaga atgggaaaac aatagggtat accacaagct gtgcttgcac  
 720  
 tggagactga gcaaaaggaa atgtgaaacg aataacatga tggaatatgt catcctcata  
 780  
 gaatttttac caaagacacc gatttttcga ccagattagc atttacttta tttatagaga  
 840  
 ctttccaagt atgttgtctt tccaatggtg ccttgcttgg tgctctcctg gtggtgacat  
 900  
 aacattgggt ctacagaatc gtgtgggtgtt ttttttgttt ttgttttttt ttttttttta  
 960  
 aataaccgca tgttctaagt gtgcattttt gtcaatcttt gcaacagtta tttcatacag  
 1020  
 atgtttaata cttaagttat tgtgctcttt tctgttatgt attctgattt tcaaggatta  
 1080  
 cttttttgta ttatcaaaaa aatacatttg aacttagcat  
 1120

&lt;210&gt; 5006

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5006

Met	Ala	Asp	Phe	Asp	Glu	Ile	Tyr	Glu	Glu	Glu	Glu	Asp	Glu	Glu	Arg
1				5				10					15		
Ala	Leu	Glu	Glu	Gln	Leu	Leu	Lys	Tyr	Ser	Pro	Asp	Pro	Val	Val	Val
			20					25					30		
Arg	Gly	Ser	Gly	His	Val	Thr	Val	Phe	Gly	Leu	Ser	Asn	Lys	Phe	Glu
			35					40					45		
Ser	Glu	Phe	Pro	Ser	Ser	Leu	Thr	Gly	Lys	Val	Ala	Pro	Glu	Glu	Phe
			50					55					60		
Lys	Ala	Ser	Ile	Asn	Arg	Val	Asn	Ser	Cys	Leu	Lys	Lys	Asn	Leu	Pro
65						70				75					80
Val	Asn	Val	Arg	Trp	Leu	Leu	Cys	Gly	Cys	Leu	Cys	Cys	Cys	Cys	Thr
				85					90					95	
Leu	Gly	Cys	Ser	Met	Trp	Pro	Val	Ile	Cys	Leu	Ser	Lys	Arg	Thr	Arg
			100					105					110		
Arg	Ser	Ile	Glu	Lys	Leu	Leu	Glu	Trp	Glu	Asn	Asn	Arg	Leu	Tyr	His
			115					120					125		
Lys	Leu	Cys	Leu	His	Trp	Arg	Leu	Ser	Lys	Arg	Lys	Cys	Glu	Thr	Asn
			130					135					140		
Asn	Met	Met	Glu	Tyr	Val	Ile	Leu	Ile	Glu	Phe	Leu	Pro	Lys	Thr	Pro
145					150					155					160
Ile	Phe	Arg	Pro	Asp											
					165										

<210> 5007  
<211> 2165  
<212> DNA  
<213> Homo sapiens

<400> 5007  
ctgaattcgg ctagaaaatc aagctttttc cgaatcccag tacagccggg caattcctac  
60  
gcaagcactc ctgaactacg caggaccccg ctggaaagta tggccaagat tcatgccaga  
120  
aacggagatt tatctgaggc tgccatgtgt tacatccata ttgctgccct cattgcagag  
180  
tatctgaaaa gaaagggcat gttctctatg ggatggccag ctgttttgag cattacacca  
240  
aacattaagg aagaaggagc gatgaaagag gattctggaa tgcaagatac accatacaat  
300  
gagaatatcc tgggtggagca gctatacatg tgtgtggagt ttctctggaa gtctgagcga  
360  
tatgaannct cattgctgat gtcaacaagc ccatcattgc tgtctttgag aaacaacgag  
420  
acttcaaaaa attcagatct ctactacgac attcatcggc catatctgaa agtggcagag  
480  
gtggtgaatt cggaagcggc tgtttggtcg ctactatcgt gtggcattta tgggcagggc  
540  
ttttttgaag aagaagaagg taaagagtat atttataaag agcctaagct gacaggctctg  
600  
tccgagattt cccaaagatt actcaagctc tatgcagata aatttggagc agacaatgtg  
660  
aagataatcc aggattccaa caaggtaaac cccaaggatt tggaccccaa atatgcctac  
720  
atccaggtga cctatgtgac gccgttcttt gaggaaaagg aaatcgaaga ccggaagaca  
780  
gatttcgaaa tgcaccacaa catcaaccgc tttgtcttcg agacaccctt cacgctgtcg  
840  
ggcaagaagc acggtggggg ggcggagcag tgcaagcggc ggacgatcct gacaacgagt  
900  
cacctgttcc cctacgtgaa gaagagaata caagtaatta gccaatcgag cacagaactg  
960  
aatccaattg aagtggcaat tgacgagatg tccaagaagg tttctgagct taatcagctt  
1020  
tgcacaatgg aagaagtgga catgatcaga ctgcagctca aactgcaagg aagtgtcagc  
1080  
gtgaagggtta atgtggggc aatggcctat gcacgagctt ttcttgaaga aaccaatgca  
1140  
aagaagtacc ctgacaacca agtaaagctt ttgaaggaga tcttcaggca atttgcagat  
1200  
gcatgtgggc aggcccttga cgtgaatgag cgcctcatca aagaggacca gctggagtac  
1260  
caggaagaac tgaggtccca ctacaaggac atgctcagcg aactctccac agtcatgaat  
1320  
gagcagctct gtcgaggtcc gtgtttatac agcttctgtt cctctgtgtc tagtatttcc  
1380  
ctcagtactg taagcaaaag tgattacggg cagggacgac ctgtcaaagc gcggagtgga  
1440

ccaaacctgc actcgagtaa ttagcaaagc aactccggcc ctaccacgg tctccatctc  
 1500  
 atctagtgt gaagtctgag ggctctgcag catcagaccc acctctaaga gaactttctg  
 1560  
 aatttgcagc taatctcggg gaagagaaaag ataggtttaa tttatttgaa gttttcatgg  
 1620  
 tgtaaatatt tttgtttacc tcgctagctt cagaattttg ccaacctctg aatttgcaca  
 1680  
 ttttgataaa tttttttttc tttgagcagt gttgatcaag ccagggttgaa tatttgccat  
 1740  
 gaaattccag tgaatgtgta gctcaaagtc aaaccctaag tttgctgtca gttattgtat  
 1800  
 ggtcagtacc ccagtcctag tacacatatt ttaaagggtta aagtgaatgt ttttgtaaca  
 1860  
 ttttaagcata tttcagatgt aaataaaaaga ttgtaaaata tacgggttttt accaaattta  
 1920  
 aaagatcctt tttagttaat actatgacag tactaaaaat atatgaataa catttcagat  
 1980  
 accattatat taaaatattt gtgtatgtgt acaaaagcgt tgataaatac taatctttaa  
 2040  
 agtttgtgga gttcctttat ttgtaataata tgtgctctta aaagcaatgg gatgtgaaat  
 2100  
 tatgaaagta ttttattggt catagaaata aaaaacacag ttactttgca aaaaaaaaaa  
 2160  
 aaaaaa  
 2165

&lt;210&gt; 5008

&lt;211&gt; 487

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5008

Leu	Asn	Ser	Ala	Arg	Lys	Ser	Ser	Phe	Phe	Arg	Ile	Pro	Val	Gln	Pro
1			5						10					15	
Gly	Asn	Ser	Tyr	Ala	Ser	Thr	Pro	Glu	Leu	Arg	Arg	Thr	Arg	Leu	Glu
		20						25					30		
Ser	Met	Ala	Lys	Ile	His	Ala	Arg	Asn	Gly	Asp	Leu	Ser	Glu	Ala	Ala
		35					40					45			
Met	Cys	Tyr	Ile	His	Ile	Ala	Ala	Leu	Ile	Ala	Glu	Tyr	Leu	Lys	Arg
	50					55					60				
Lys	Gly	Met	Phe	Ser	Met	Gly	Trp	Pro	Ala	Val	Leu	Ser	Ile	Thr	Pro
65					70					75				80	
Asn	Ile	Lys	Glu	Glu	Gly	Ala	Met	Lys	Glu	Asp	Ser	Gly	Met	Gln	Asp
			85						90					95	
Thr	Pro	Tyr	Asn	Glu	Asn	Ile	Leu	Val	Glu	Gln	Leu	Tyr	Met	Cys	Val
			100					105					110		
Glu	Phe	Leu	Trp	Lys	Ser	Glu	Arg	Tyr	Glu	Xaa	Ser	Leu	Leu	Met	Ser
	115						120					125			
Thr	Ser	Pro	Ser	Leu	Leu	Ser	Leu	Arg	Asn	Asn	Glu	Thr	Ser	Lys	Asn
	130					135					140				
Ser	Asp	Leu	Tyr	Tyr	Asp	Ile	His	Arg	Ser	Tyr	Leu	Lys	Val	Ala	Glu
145					150					155				160	
Val	Val	Asn	Ser	Glu	Ala	Ala	Val	Trp	Ser	Leu	Leu	Ser	Cys	Gly	Ile



					165					170					175				
Tyr	Gly	Gln	Gly	Phe	Phe	Glu	Glu	Glu	Glu	Gly	Lys	Glu	Tyr	Ile	Tyr				
			180					185					190						
Lys	Glu	Pro	Lys	Leu	Thr	Gly	Leu	Ser	Glu	Ile	Ser	Gln	Arg	Leu	Leu				
		195					200					205							
Lys	Leu	Tyr	Ala	Asp	Lys	Phe	Gly	Ala	Asp	Asn	Val	Lys	Ile	Ile	Gln				
		210				215					220								
Asp	Ser	Asn	Lys	Val	Asn	Pro	Lys	Asp	Leu	Asp	Pro	Lys	Tyr	Ala	Tyr				
225					230					235					240				
Ile	Gln	Val	Thr	Tyr	Val	Thr	Pro	Phe	Phe	Glu	Glu	Lys	Glu	Ile	Glu				
			245						250						255				
Asp	Arg	Lys	Thr	Asp	Phe	Glu	Met	His	His	Asn	Ile	Asn	Arg	Phe	Val				
			260					265					270						
Phe	Glu	Thr	Pro	Phe	Thr	Leu	Ser	Gly	Lys	Lys	His	Gly	Gly	Val	Ala				
		275					280					285							
Glu	Gln	Cys	Lys	Arg	Arg	Thr	Ile	Leu	Thr	Thr	Ser	His	Leu	Phe	Pro				
		290				295					300								
Tyr	Val	Lys	Lys	Arg	Ile	Gln	Val	Ile	Ser	Gln	Ser	Ser	Thr	Glu	Leu				
305					310					315					320				
Asn	Pro	Ile	Glu	Val	Ala	Ile	Asp	Glu	Met	Ser	Lys	Lys	Val	Ser	Glu				
			325					330						335					
Leu	Asn	Gln	Leu	Cys	Thr	Met	Glu	Glu	Val	Asp	Met	Ile	Arg	Leu	Gln				
		340					345						350						
Leu	Lys	Leu	Gln	Gly	Ser	Val	Ser	Val	Lys	Val	Asn	Ala	Gly	Pro	Met				
		355					360					365							
Ala	Tyr	Ala	Arg	Ala	Phe	Leu	Glu	Glu	Thr	Asn	Ala	Lys	Lys	Tyr	Pro				
		370				375					380								
Asp	Asn	Gln	Val	Lys	Leu	Leu	Lys	Glu	Ile	Phe	Arg	Gln	Phe	Ala	Asp				
385				390						395					400				
Ala	Cys	Gly	Gln	Ala	Leu	Asp	Val	Asn	Glu	Arg	Leu	Ile	Lys	Glu	Asp				
			405					410						415					
Gln	Leu	Glu	Tyr	Gln	Glu	Glu	Leu	Arg	Ser	His	Tyr	Lys	Asp	Met	Leu				
			420					425					430						
Ser	Glu	Leu	Ser	Thr	Val	Met	Asn	Glu	Gln	Leu	Cys	Arg	Gly	Pro	Cys				
		435					440					445							
Leu	Tyr	Ser	Phe	Cys	Ser	Ser	Val	Ser	Ser	Ile	Ser	Leu	Ser	Thr	Val				
		450				455			</										

```
<210> 5009
<211> 426
<212> DNA
<213> Homo sapiens
```

```
<400> 5009
acgcgtgaag tgtttgtggc agtgctgggc acatgttaag tactcaataa ggtttaggca
60
ttattactgc cccctgtgaa ggtctggggc aggatatgaa agggcctgtg ctctccttcc
120
ccttgagat gtcagcaaag catggcgagg agagcagctt ctctctgtc ccaaagggaa
180
```

gcagaagatt aggagctaga tcaagcaaga ctgggggctg caggtgtagg aagtgaatca  
 240  
 agatgacttc aaaagagaga ataaaaagtg ggcttatgaa gaattggtgg actcttcctg  
 300  
 gcaaattggg caagaaaagc agagatggtg acaggaagaa aaagcaagca tagctgtcca  
 360  
 ctggctggtt aagagcagct ctcaaaggtc gccagacaag catcccgctt tatgattcca  
 420  
 aagcat  
 426

<210> 5010

<211> 119

<212> PRT

<213> Homo sapiens

<400> 5010

Met	Leu	Val	Trp	Arg	Pro	Leu	Arg	Ala	Ala	Leu	Asn	Gln	Pro	Val	Asp
1				5				10					15		
Ser	Tyr	Ala	Cys	Phe	Phe	Phe	Leu	Ser	Pro	Ser	Leu	Leu	Phe	Leu	Pro
			20					25					30		
Asn	Leu	Pro	Gly	Arg	Val	His	Gln	Phe	Phe	Ile	Ser	Pro	Leu	Phe	Ile
		35					40					45			
Leu	Ser	Phe	Glu	Val	Ile	Leu	Ile	His	Phe	Leu	His	Leu	Gln	Pro	Pro
	50					55					60				
Val	Leu	Leu	Asp	Leu	Ala	Pro	Asn	Leu	Leu	Leu	Pro	Phe	Gly	Thr	Glu
65					70					75				80	
Glu	Lys	Leu	Leu	Ser	Ser	Pro	Cys	Phe	Ala	Asp	Ile	Ser	Lys	Gly	Lys
				85					90				95		
Glu	Ser	Thr	Gly	Pro	Phe	Ile	Ser	Cys	Pro	Arg	Pro	Ser	Gln	Gly	Ala
			100					105					110		
Val	Ile	Met	Pro	Lys	Pro	Tyr									
			115												

<210> 5011

<211> 3431

<212> DNA

<213> Homo sapiens

<400> 5011

nccgcatgct cccgtatctt tggttacgct cgtcagccgg tcggccgccc cctccagccg  
 60  
 tgtgccgcta tgggagtcctt ggcttcttc cgctgggtca gccgcaagta cccgtccatc  
 120  
 atagtcaact gcgtggaaga gaagccaaaa gaatgcaatg gtgtaaagat tccagttgat  
 180  
 gccagtaaac ctaatccaaa tgatgtggag tttgataatc tgtattttgga tatgaatgga  
 240  
 atcatccatc cctgtactca tcctgaagac aaaccagcac caaaaaatga agatgaaatg  
 300  
 atggttgcaa tttttgagta cattgacaga cttttcagta ttgtaagacc aagaagactt  
 360  
 ctctacatgg caatagatgg agtggcacca cgtgtaaaaa tgaaccagca gcgttcaagg  
 420

aggttcaggg ccatcaaaga aggaatggaa gcagcagtcg agaagcagcg agtcagggaa  
480  
gaaatattgg caaaaggtgg ctttcttcct ccagaagaaa taaaagaaag atttgacagc  
540  
aactgtatta caccaggaac tgaattcatg gacaatcttg ctaaatgcct tcgctattac  
600  
atagctgac gtttaaataa tgaccctggg tggaaaaatt tgacagttat tttatctgat  
660  
gctagtgtc ctggtgaagg agaacataaa atcatggatt acattagaag gcaaagagcc  
720  
cagcctaacc atgacccaaa tactcatcat tgtttatgtg gagcagatgc tgatctcatt  
780  
atgcttggcc ttgccacaca tgaaccgaac tttaccatta ttagagaaga attcaaacca  
840  
aacaagccca aaccatgtgg tctttgtaat cagtttggac atgaggtcaa agattgtgaa  
900  
ggtttgccaa gagaaaagaa gggaaagcat gatgaacttg ccgatagtct tccttggtgca  
960  
gaaggagagt ttatcttcct tcggcttaat gttcttcgtg agtatttgga aagagaactc  
1020  
acaatggcca gcctaccatt cacatttgat gttgagagga gcattgatga ctgggttttc  
1080  
atgtgcttct ttgtgggaaa tgacttcctc cctcatttgc catcgttaga gattagggaa  
1140  
aatgcaattg accgtttggt taacatatac aaaaatgtgg tacacaaaac tgggggttac  
1200  
cttacagaaa gtggttatgt caatctgcaa agagtacaga tgatcatgtt agcagttggt  
1260  
gaagttgagg atagcatttt taaaaagaga aaggatgatg aggacagttt tagaagacga  
1320  
cagaaagaaa aaagaaagag aatgaagaga gatcaaccag ctttcaactcc tagtggaata  
1380  
ttaactcctc atgccttggg ttcaagaaat tcaccagggt ctcaagtagc cagtaatccg  
1440  
agacaagcag cctatgaaat gaggatgcag aataactcta gtccttcgat atctccta  
1500  
acgagtttca catctgatgg ctccccgtct ccattaggag gaattaagcg aaaagcagaa  
1560  
gacagtgaca gtgaacctga gccagaggat aatgtcaggt tatgggaagc tggctggaag  
1620  
cagcgttact acaagaacaa atttgatgtg gatgcagctg atgagaaatt ccgtcgga  
1680  
gttggtcagt cgtacgttga aggactttgc tgggttctta gatattatta ccagggtgt  
1740  
gcttcttgga agtgggtatta tccatttcat tatgcacat ttgcttcaga ctttgaaggc  
1800  
attgcagaca tgccatctga ttttgagaag ggtacgaaac cgtttaaacc actagaacaa  
1860  
cttatggggg tatttccagc tgcaagtggg aattttctac ctccatcatg gcggaagctc  
1920  
atgagtgtc ctgattctag tataattgac ttctatcctg aagattttgc tattgatttg  
1980  
aatgggaaga aatatgcatg gcaaggtgtt gctctcttgc cattcgtgga tgagcgaag  
2040

ctacgagctg ccctagaaga ggtataccca gacctcactc cagaagagac cagaagaaac  
2100  
agccttgagg gtgatgtctt atttgtgggg aaacatcacc cactccatga cttcatttta  
2160  
gagctgtacc agacagggtc cacagagcca gtggaggtag cccctgaact atgtcatggg  
2220  
attcaaggaa agttttcttt ggatgaagaa gccattcttc cagatcaaatt agtatgttct  
2280  
cctgttctta tgtaaggga tctgacacag aacactgtag tcagtattaa ttttaaagac  
2340  
ccacagtttg ctgaagatta cttttttaaa gctgtaatgc ttccaggagc aagaaagcca  
2400  
gcagcagtag tgaaacctag tgactgggaa aaatccagca atggacggca gtggaagcct  
2460  
cagcttggtt ttaacctga ccggaggcct gtgcacctgg atcaggcagc cttcaggact  
2520  
ttgggccatg tgatgccaaag aggtctagga actggcattt acagcaatgc tgcaccacca  
2580  
cctgtgactt accagggaaa cttatacagg ccgcttttga gaggacaagc ccagattcca  
2640  
aaacttatgt caaatatgag gccccaggat tcctggcgag gtcctcctcc ctttttccag  
2700  
cagcaaaggt ttgacagagg cgttggggct gaacctctgc tcccatggaa ccggatgctg  
2760  
caaaccaga atgcagcctt ccagccaaac cagtaccaga tgctagctgg gcctgggtggg  
2820  
tatccacca gacgagatga tcgtggaggg agacagggat atcccagaga aggaaggaaa  
2880  
taccctttgc caccacctc aggaagatac aattggaatt aagcttttgt aaagctttcc  
2940  
caaatccttt catcattcta cagttttatg ctatttgtgg aaagatttct ttctcaagta  
3000  
gtagttttta ataaaactac agtactttgt gtatttcttt taactgtgta tttttctact  
3060  
gatctgatct cactgtttat gttgctttcc aaagatgtat gttgcataat acagtggatc  
3120  
tgaatttatt attgcttata aaacacattt gatggaatag gagtactggg ttttcataat  
3180  
ggttaaaaaat gaaaccagct gtggatttca aaacacagtg tattctagat catctaagat  
3240  
ccatgctgat ttttattgca caagaattag gtttgaactc ttgagctgga acctcagcaa  
3300  
actagagtat atattgttca gtatttcttt ggaaacattt cattaatgta cttgtcttac  
3360  
agaaatttct gaacttttagt aaaaaaaaaa aaagttaaac ttttaaaact caaaaaaaaaa  
3420  
aaaaaaaaaa a  
3431

&lt;210&gt; 5012

&lt;211&gt; 950

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5012

```

Met Gly Val Pro Ala Phe Phe Arg Trp Leu Ser Arg Lys Tyr Pro Ser
 1           5           10           15
Ile Ile Val Asn Cys Val Glu Glu Lys Pro Lys Glu Cys Asn Gly Val
 20           25           30
Lys Ile Pro Val Asp Ala Ser Lys Pro Asn Pro Asn Asp Val Glu Phe
 35           40           45
Asp Asn Leu Tyr Leu Asp Met Asn Gly Ile Ile His Pro Cys Thr His
 50           55           60
Pro Glu Asp Lys Pro Ala Pro Lys Asn Glu Asp Glu Met Met Val Ala
 65           70           75           80
Ile Phe Glu Tyr Ile Asp Arg Leu Phe Ser Ile Val Arg Pro Arg Arg
 85           90           95
Leu Leu Tyr Met Ala Ile Asp Gly Val Ala Pro Arg Val Lys Met Asn
 100          105          110
Gln Gln Arg Ser Arg Arg Phe Arg Ala Ile Lys Glu Gly Met Glu Ala
 115          120          125
Ala Val Glu Lys Gln Arg Val Arg Glu Glu Ile Leu Ala Lys Gly Gly
 130          135          140
Phe Leu Pro Pro Glu Glu Ile Lys Glu Arg Phe Asp Ser Asn Cys Ile
 145          150          155          160
Thr Pro Gly Thr Glu Phe Met Asp Asn Leu Ala Lys Cys Leu Arg Tyr
 165          170          175
Tyr Ile Ala Asp Arg Leu Asn Asn Asp Pro Gly Trp Lys Asn Leu Thr
 180          185          190
Val Ile Leu Ser Asp Ala Ser Ala Pro Gly Glu Gly Glu His Lys Ile
 195          200          205
Met Asp Tyr Ile Arg Arg Gln Arg Ala Gln Pro Asn His Asp Pro Asn
 210          215          220
Thr His His Cys Leu Cys Gly Ala Asp Ala Asp Leu Ile Met Leu Gly
 225          230          235          240
Leu Ala Thr His Glu Pro Asn Phe Thr Ile Ile Arg Glu Glu Phe Lys
 245          250          255
Pro Asn Lys Pro Lys Pro Cys Gly Leu Cys Asn Gln Phe Gly His Glu
 260          265          270
Val Lys Asp Cys Glu Gly Leu Pro Arg Glu Lys Lys Gly Lys His Asp
 275          280          285
Glu Leu Ala Asp Ser Leu Pro Cys Ala Glu Gly Glu Phe Ile Phe Leu
 290          295          300
Arg Leu Asn Val Leu Arg Glu Tyr Leu Glu Arg Glu Leu Thr Met Ala
 305          310          315          320
Ser Leu Pro Phe Thr Phe Asp Val Glu Arg Ser Ile Asp Asp Trp Val
 325          330          335
Phe Met Cys Phe Phe Val Gly Asn Asp Phe Leu Pro His Leu Pro Ser
 340          345          350
Leu Glu Ile Arg Glu Asn Ala Ile Asp Arg Leu Val Asn Ile Tyr Lys
 355          360          365
Asn Val Val His Lys Thr Gly Gly Tyr Leu Thr Glu Ser Gly Tyr Val
 370          375          380
Asn Leu Gln Arg Val Gln Met Ile Met Leu Ala Val Gly Glu Val Glu
 385          390          395          400
Asp Ser Ile Phe Lys Lys Arg Lys Asp Asp Glu Asp Ser Phe Arg Arg
 405          410          415
Arg Gln Lys Glu Lys Arg Lys Arg Met Lys Arg Asp Gln Pro Ala Phe

```

4190

850		855		860											
Pro	Gln	Asp	Ser	Trp	Arg	Gly	Pro	Pro	Pro	Leu	Phe	Gln	Gln	Gln	Arg
865					870					875					880
Phe	Asp	Arg	Gly	Val	Gly	Ala	Glu	Pro	Leu	Leu	Pro	Trp	Asn	Arg	Met
			885						890					895	
Leu	Gln	Thr	Gln	Asn	Ala	Ala	Phe	Gln	Pro	Asn	Gln	Tyr	Gln	Met	Leu
		900						905					910		
Ala	Gly	Pro	Gly	Gly	Tyr	Pro	Pro	Arg	Arg	Asp	Asp	Arg	Gly	Gly	Arg
		915				920						925			
Gln	Gly	Tyr	Pro	Arg	Glu	Gly	Arg	Lys	Tyr	Pro	Leu	Pro	Pro	Pro	Ser
	930				935						940				
Gly	Arg	Tyr	Asn	Trp	Asn										
945					950										

&lt;210&gt; 5013

&lt;211&gt; 2480

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5013

```

nccggggcgg agctcgcgat agcgaccggg agcagggcgc ggggcgggac ccaggtccga
60
ggcgaggaag ccggaagcca ggcgcgggga gcctccccct tcgactgcag cctcgctccg
120
tgctttctgc gcgcctggga tcccgagacc tgcttaggtt ctgtgcgctc ccgcccaggc
180
cggtgcccgc cgccgcctg cgccccaggc aggtcccagg cctccggctg ctccccggcg
240
aaggtgggga caggcagtgg caggcaccac tagcgagggc gtttgggaac ccaggggtgac
300
cacggcgag ccatggggac cgcgcttggt taccatgagg acatgacggc caccggctg
360
ctctgggacg accccgagtg cgagatcgag cgtcctgagc gcctgaccgc agccctggat
420
cgctcgcggc agcgcggcct ggaacagagg tgtctgcggt tgtcagcccg cgaggcctcg
480
gaagaggagc tgggcctggt gcacagccca gagtatgtat ccctggtcag ggagaccag
540
gtcctaggca aggaggagct gcaggcgctg tccggacagt tcgacgccat ctacttccac
600
ccgagtacct ttactgcgc gcggtggcc gcaggggctg gactgcagct ggtggacgct
660
gtgctcactg gagctgtgca aaatgggctt gcctgggtga ggctcccgg gcaccatggc
720
cagagggcgg ctgccaacgg gttctgtgtg ttcaacaacg tggccatagc agctgcacat
780
gccaagcaga aacacgggct acacaggatc ctcgtcgtgg actgggatgt gcaccatggc
840
caggggatcc agtatctctt tgaggatgac ccagcgtcc ttacttctc ctggcaccgc
900
tatagcatg ggcgcttctg gcctttctg cgagagtcag atgcagacgc agtggggcgg
960
ggacagggcc tcggcttcac tgtcaacctg ccctggaacc aggttgggat gggaaacgct
1020

```

gactacgtgg ctgccttccct gcacctgctg ctcccactgg cctttgagtt tgacctgag  
1080  
ctggtgctgg tctcggcagg atttgactca gccatcgggg accctgaggg gcaaattgcag  
1140  
gccacgccag agtgcttcgc ccacctcaca cagctgctgc aggtgctggc cggcgggccgg  
1200  
gtctgtgccg tgctggaggg eggctaccac ctggagtcac tggcggagtc agtggtcatg  
1260  
acagtacaga cgctgctggg tgacctggcc ccacctctgt cagggccaat ggcgccatgt  
1320  
cagaggtgctg aggggagtg cctagagtcc atccagagtg cccgtgctgc ccaggccccg  
1380  
cactggaaga gcctccagca gcaagatgtg accgctgtgc cgatgagccc cagcagccac  
1440  
tcccagagg ggaggcctcc acctctgctg cctgggggtc cagtgtgtaa ggcagctgca  
1500  
tctgcaccga gctccctcct ggaccagccg tgctctgccc ccgcaccctc tgtccgcacc  
1560  
gctgttgccc tgacaacgcc ggatatcaca ttggttctgc cccctgacgt catccaacag  
1620  
gaagcgtcag ccctgagggg ggagacagaa gcctggggcca ggccacacga gtccctggcc  
1680  
cgggaggagg ccctcactgc acttgggaag ctctgtacc tcttagatgg gatgctggat  
1740  
gggcaggtga acagtggat agcagccact ccagcctctg ctgcagcagc caccctggat  
1800  
gtggctgttc ggagaggcct gtcccacgga gccagaggc tgctgtgcgt ggccctggga  
1860  
cagctggacc ggctccaga cctcgcccat gacgggagga gtctgtggct gaacatcagg  
1920  
ggcaaggagg cggctgccct atccatgttc catgtctcca cgccactgcc agtgatgacc  
1980  
ggtggtttcc tgagctgcat cttgggcttg gtgctgcccc tggcctatgg cttccagcct  
2040  
gacctggtgc tgggtggcgt ggggcctggc catggcctgc agggccccca cgctgcactc  
2100  
ctggctgcaa tgcttcgggg gctggcaggg ggccgagtc tggccctcct ggaggaggta  
2160  
agctgggcag ggtggaggtg ctgcggggtg ggacgagggg aaggaccagt gactgcttcc  
2220  
gtcttcgccc ctgggtccaga actccacacc ccagctagca gggatcctgg cccgggtgct  
2280  
gaatggagag gcacctccta gcctaggccc ttcctctgtg gcctccccag aggacgtcca  
2340  
ggccctgatg tacctgagag ggcagctgga gcctcagtgg aagatgttgc agtgccatcc  
2400  
tcacctggtg gcttgaaatc ggccaagggtg ggagcattta caccgcagaa atgacaccgc  
2460  
acgccagcgc cccgcggccg  
2480

&lt;210&gt; 5014

&lt;211&gt; 675

&lt;212&gt; PRT



&lt;213&gt; Homo sapiens

&lt;400&gt; 5014

```

Arg Gly Arg Leu Gly Thr Gln Gly Asp His Gly Ala Ala Met Gly Thr
 1           5           10           15
Ala Leu Val Tyr His Glu Asp Met Thr Ala Thr Arg Leu Leu Trp Asp
 20           25           30
Asp Pro Glu Cys Glu Ile Glu Arg Pro Glu Arg Leu Thr Ala Ala Leu
 35           40           45
Asp Arg Leu Arg Gln Arg Gly Leu Glu Gln Arg Cys Leu Arg Leu Ser
 50           55           60
Ala Arg Glu Ala Ser Glu Glu Glu Leu Gly Leu Val His Ser Pro Glu
 65           70           75           80
Tyr Val Ser Leu Val Arg Glu Thr Gln Val Leu Gly Lys Glu Glu Leu
 85           90           95
Gln Ala Leu Ser Gly Gln Phe Asp Ala Ile Tyr Phe His Pro Ser Thr
100           105           110
Phe His Cys Ala Arg Leu Ala Ala Gly Ala Gly Leu Gln Leu Val Asp
115           120           125
Ala Val Leu Thr Gly Ala Val Gln Asn Gly Leu Ala Leu Val Arg Pro
130           135           140
Pro Gly His His Gly Gln Arg Ala Ala Ala Asn Gly Phe Cys Val Phe
145           150           155           160
Asn Asn Val Ala Ile Ala Ala Ala His Ala Lys Gln Lys His Gly Leu
165           170           175
His Arg Ile Leu Val Val Asp Trp Asp Val His His Gly Gln Gly Ile
180           185           190
Gln Tyr Leu Phe Glu Asp Asp Pro Ser Val Leu Tyr Phe Ser Trp His
195           200           205
Arg Tyr Glu His Gly Arg Phe Trp Pro Phe Leu Arg Glu Ser Asp Ala
210           215           220
Asp Ala Val Gly Arg Gly Gln Gly Leu Gly Phe Thr Val Asn Leu Pro
225           230           235           240
Trp Asn Gln Val Gly Met Gly Asn Ala Asp Tyr Val Ala Ala Phe Leu
245           250           255
His Leu Leu Leu Pro Leu Ala Phe Glu Phe Asp Pro Glu Leu Val Leu
260           265           270
Val Ser Ala Gly Phe Asp Ser Ala Ile Gly Asp Pro Glu Gly Gln Met
275           280           285
Gln Ala Thr Pro Glu Cys Phe Ala His Leu Thr Gln Leu Leu Gln Val
290           295           300
Leu Ala Gly Gly Arg Val Cys Ala Val Leu Glu Gly Gly Tyr His Leu
305           310           315           320
Glu Ser Leu Ala Glu Ser Val Cys Met Thr Val Gln Thr Leu Leu Gly
325           330           335
Asp Pro Ala Pro Pro Leu Ser Gly Pro Met Ala Pro Cys Gln Arg Cys
340           345           350
Glu Gly Ser Ala Leu Glu Ser Ile Gln Ser Ala Arg Ala Ala Gln Ala
355           360           365
Pro His Trp Lys Ser Leu Gln Gln Asp Val Thr Ala Val Pro Met
370           375           380
Ser Pro Ser Ser His Ser Pro Glu Gly Arg Pro Pro Pro Leu Leu Pro
385           390           395           400
Gly Gly Pro Val Cys Lys Ala Ala Ala Ser Ala Pro Ser Ser Leu Leu

```

405 410 415  
 Asp Gln Pro Cys Leu Cys Pro Ala Pro Ser Val Arg Thr Ala Val Ala  
 420 425 430  
 Leu Thr Thr Pro Asp Ile Thr Leu Val Leu Pro Pro Asp Val Ile Gln  
 435 440 445  
 Gln Glu Ala Ser Ala Leu Arg Glu Glu Thr Glu Ala Trp Ala Arg Pro  
 450 455 460  
 His Glu Ser Leu Ala Arg Glu Glu Ala Leu Thr Ala Leu Gly Lys Leu  
 465 470 475 480  
 Leu Tyr Leu Leu Asp Gly Met Leu Asp Gly Gln Val Asn Ser Gly Ile  
 485 490 495  
 Ala Ala Thr Pro Ala Ser Ala Ala Ala Thr Leu Asp Val Ala Val  
 500 505 510  
 Arg Arg Gly Leu Ser His Gly Ala Gln Arg Leu Leu Cys Val Ala Leu  
 515 520 525  
 Gly Gln Leu Asp Arg Pro Pro Asp Leu Ala His Asp Gly Arg Ser Leu  
 530 535 540  
 Trp Leu Asn Ile Arg Gly Lys Glu Ala Ala Ala Leu Ser Met Phe His  
 545 550 555 560  
 Val Ser Thr Pro Leu Pro Val Met Thr Gly Gly Phe Leu Ser Cys Ile  
 565 570 575  
 Leu Gly Leu Val Leu Pro Leu Ala Tyr Gly Phe Gln Pro Asp Leu Val  
 580 585 590  
 Leu Val Ala Leu Gly Pro Gly His Gly Leu Gln Gly Pro His Ala Ala  
 595 600 605  
 Leu Leu Ala Ala Met Leu Arg Gly Leu Ala Gly Gly Arg Val Leu Ala  
 610 615 620  
 Leu Leu Glu Glu Val Ser Trp Ala Gly Trp Arg Cys Cys Gly Val Gly  
 625 630 635 640  
 Arg Gly Glu Gly Pro Val Thr Ala Ser Val Phe Ala Pro Gly Pro Glu  
 645 650 655  
 Leu His Thr Pro Ala Ser Arg Asp Pro Gly Pro Gly Ala Glu Trp Arg  
 660 665 670  
 Gly Thr Ser  
 675

&lt;210&gt; 5015

&lt;211&gt; 1360

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5015

atgagcgcgc cctggaggcg agccaggccc gtcaccacct cccagcggcc ccgcccctcc  
 60  
 ccgcagggtcc ctcccctctc cgcaggcccc gccgcgcgcg ccattctttgt tgggggcagc  
 120  
 caggcctggc tcgagatgcc gaagtcgtgc gcgccccggc agtgctgcaa ccgctacagc  
 180  
 agccgcagga agcagctcac cttccaccgg ttccggttca gccgccccga gctgctgaag  
 240  
 gaatgggtgc tgaacatcgg ccggggcaac ttcaagccca agcagcacac ggtcatctgc  
 300  
 tccgagcact tccggccaga gtgcttcagc gcctttggaa accgcaagaa cctaaagcac  
 360

aatgccgtgc ccacggtggt cgcctttcag gacccacac agcaggtgag ggagaacaca  
 420  
 gaccctgccca gtgagagagg aaatgccagc tcttctcaga aagaaaagg cctccctgag  
 480  
 gcgggggccc gagaggacag tcctgggaga aacatggaca ctgcacttga agagcttcag  
 540  
 ttgcccccaa atgccgaagg ccacgtaaaa caggtctcgc cacggaggcc gcaagcaaca  
 600  
 gaggtgttg gccggccgac tggccctgca ggctgagaa ggacccccaa caagcagcca  
 660  
 tctgatcaca gctatgcctt tttggactta gattccctga agaaaaaact ctctctcact  
 720  
 ctgaagggaaa atgaaaagct ccggaagcgc ttgcaggccc agaggctggt gatgccaagg  
 780  
 atgtccagcc gcctccgtgc ttgcaaaggg caccggggac tccaggccag acttggggcca  
 840  
 gagcagcaga gctgagcccc acaggctccg gacgcagagg tggcagtggc accagggccg  
 900  
 gcagagcttt ggagctctgg ctgtggacat ttttgtctgc tgtggacact gagaaagtgt  
 960  
 gccatgaggc ctgcttggcc ggggatcgag acagtagcca agtccccgg cgagagcccc  
 1020  
 aatgccgtct gggggacgtt tagaggcgtg gcactaggag tgcacatctg tgagcatgac  
 1080  
 aagcttatcc tcccatggta acagaagtcc aggetgaggc tgattctgga cgctgtcctt  
 1140  
 tcagcacacg cagagcaaag atcgttggaa gcccagtggt gggagatgct cctcagggag  
 1200  
 gaagccatgt gaggggctg gctctgtggc gggtgagtgg tcccctctc catcagcctg  
 1260  
 gacagccgct cggggttcta aggagtgact cctgtcccgg cctggtgtga gtgggcagtg  
 1320  
 taataaagtg tctttctata cggaaaaaaa aaaaaaaaaa  
 1360

&lt;210&gt; 5016

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5016

Met	Ser	Ala	Pro	Trp	Arg	Arg	Ala	Arg	Pro	Val	Thr	Thr	Ser	Gln	Arg
1				5					10					15	
Pro	Arg	Pro	Ser	Pro	Gln	Val	Pro	Pro	Leu	Ser	Ala	Gly	Pro	Ala	Ala
		20						25					30		
Ala	Ala	Ile	Phe	Val	Gly	Gly	Ser	Gln	Ala	Trp	Leu	Glu	Met	Pro	Lys
		35				40						45			
Ser	Cys	Ala	Ala	Arg	Gln	Cys	Cys	Asn	Arg	Tyr	Ser	Ser	Arg	Arg	Lys
	50					55					60				
Gln	Leu	Thr	Phe	His	Arg	Phe	Pro	Phe	Ser	Arg	Pro	Glu	Leu	Leu	Lys
	65				70				75					80	
Glu	Trp	Val	Leu	Asn	Ile	Gly	Arg	Gly	Asn	Phe	Lys	Pro	Lys	Gln	His
				85				90						95	
Thr	Val	Ile	Cys	Ser	Glu	His	Phe	Arg	Pro	Glu	Cys	Phe	Ser	Ala	Phe

	100		105		110										
Gly	Asn	Arg	Lys	Asn	Leu	Lys	His	Asn	Ala	Val	Pro	Thr	Val	Phe	Ala
	115				120				125						
Phe	Gln	Asp	Pro	Thr	Gln	Gln	Val	Arg	Glu	Asn	Thr	Asp	Pro	Ala	Ser
	130				135				140						
Glu	Arg	Gly	Asn	Ala	Ser	Ser	Ser	Gln	Lys	Glu	Lys	Val	Leu	Pro	Glu
145				150					155					160	
Ala	Gly	Ala	Gly	Glu	Asp	Ser	Pro	Gly	Arg	Asn	Met	Asp	Thr	Ala	Leu
			165					170					175		
Glu	Glu	Leu	Gln	Leu	Pro	Pro	Asn	Ala	Glu	Gly	His	Val	Lys	Gln	Val
	180						185					190			
Ser	Pro	Arg	Arg	Pro	Gln	Ala	Thr	Glu	Ala	Val	Gly	Arg	Pro	Thr	Gly
	195				200				205						
Pro	Ala	Gly	Leu	Arg	Arg	Thr	Pro	Asn	Lys	Gln	Pro	Ser	Asp	His	Ser
	210				215				220						
Tyr	Ala	Leu	Leu	Asp	Leu	Asp	Ser	Leu	Lys	Lys	Lys	Leu	Phe	Leu	Thr
225			230						235					240	
Leu	Lys	Glu	Asn	Glu	Lys	Leu	Arg	Lys	Arg	Leu	Gln	Ala	Gln	Arg	Leu
			245					250					255		
Val	Met	Arg	Arg	Met	Ser	Ser	Arg	Leu	Arg	Ala	Cys	Lys	Gly	His	Arg
	260						265					270			
Gly	Leu	Gln	Ala	Arg	Leu	Gly	Pro	Glu	Gln	Gln	Ser				
	275						280								

&lt;210&gt; 5017

&lt;211&gt; 785

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5017

```

gggccctcag cctctgaggg cagagatgct gtcagtgccg caggtgcatc acatacttct
60
agcatcctct ccacctgca ttccaaatgc tgcttgctgc ctgccctgcc ctccgatgca
120
gggggtggggg gggggcgga gggcccgccc agcatagctg cagtgtcaca aagccatggc
180
agaaggtcct agcggcgcca ccctgcccc gctgaggag gagggagagg gaggaacaac
240
cctgggcaga cggggcctca gggacctgtg tccttcgccc tccagagctg cccagccacg
300
ggctctcagg gtgctggggc agccccaggt ccctcttga actcagctgg ggccaggggc
360
cctcagaatg aaggcaggca ccaggcagga gcagcatccc cctccttgac ggtgctggca
420
ggagggcgcg gccatgctga ctgcttgaac ctctgctgac ctgacagtgc tggcgggagg
480
gccgcaccat gctgactgcc tgaatctctg ctgaggctgc ctgcctgccg ggcccagctc
540
agcgccctct cactgcgaa tcagtggcga tcatgtgatt tctatttctg cccacaggg
600
taagggacga gtcttctgga aggtctgccc atggacattt gtcctcgggc tcagaggccc
660
caccctgccc cacacctgcc cctaatact gcagtgtcca gccagtggtt gaacagattg
720

```

tagcgttctg tctcattacg agcaaataaa tagactttca ttggaaaaaa aaaaaaaaaa  
780

aaaaaa

785

<210> 5018

<211> 63

<212> PRT

<213> Homo sapiens

<400> 5018

Gly Pro Ser Ala Ser Glu Gly Arg Asp Ala Val Ser Ala Ala Gly Ala  
1 5 10 15  
Ser His Thr Ser Ser Ile Leu Ser Thr Leu His Ser Lys Cys Cys Leu  
20 25 30  
Leu Pro Ala Leu Pro Ser Asp Ala Gly Val Gly Trp Gly Ala Glu Gly  
35 40 45  
Pro Pro Ser Ile Ala Ala Val Ser Gln Ser His Gly Arg Arg Ser  
50 55 60

<210> 5019

<211> 2766

<212> DNA

<213> Homo sapiens

<400> 5019

nngctcgagt actggcgaag acgagaagaa gaggagcggt ggagaatgga aatgagacgt  
60  
tatgaagagg acatgtactg gaggagaatg gaggaagaac aacatcattg ggatgatcgc  
120  
cgccgaatgc cagatggagg ttatcctcat ggtcctccag gccattagg cttctcggga  
180  
gtccgaccag gcatgcctcc tcagcctcag gggcctgcac ccttacgtcg tcctgactca  
240  
tctgatgacc gttatgtaat gacaaaacat gccaccattt atccaactga agaggagtta  
300  
caggcagttc agaaaattgt ttctattact gaacgtgctt taaaactcgt ttcagacagt  
360  
ttgtctgaac atgagaagaa caagaacaaa gagggagatg ataagaaaga gggaggtaaa  
420  
gacagagctt tgaaaggagt tttgcgagtg ggagtatttg caaaaggatt acttctccga  
480  
ggagatagaa atgtcaacct tgttttgctg tgctcagaga aaccttcaaa gacattatta  
540  
agccgtattg cagaaaacct acccaaacag cttgctttta taagccctga gaagtatgac  
600  
ataaaatgtg ctgtatctga agcggcaata attttgaatt catgtgtgga acccaaatg  
660  
caagtcacta tcacactgac atctccaatt attcgagaag agaacatgag ggaaggagat  
720  
gtaacctcgg gtatggtgaa agacccaccg gacgtcttgg acaggcaaaa atgccttgac  
780  
gctctggctg ctctacgcca cgctaagtgg ttccaggcta gagctaattg tctgcagtcc  
840

tgtgtgatta tcatacgcat tcttcgagac ctctgtcagc gagttccaac ttggtctgat  
900  
tttccaagct gggctatgga gttactagta gagaaagcaa tcagcagtg ctttagccct  
960  
cagagccctg gggatgcact gagaagagtt tttgaatgca tttcttcagg gattattctt  
1020  
aaaggtagtc ctggacttct ggatccttgt gaaaaggatc cctttgatac cttggcaaca  
1080  
atgactgacc agcagcgtga agacatcaca tccagtgcac agtttgcatt gagactcctt  
1140  
gcattccgcc agatacacia agttctaggc atggatccat taccgcaa at gagccaacgt  
1200  
tttaacatcc acaacaacag gaaacgaaga agagatagtg atggagtga tggatttgaa  
1260  
gctgagggga aaaaagacaa aaaagattat gataactttt aaaaagtgtc tgtaaatctt  
1320  
cagtgttaaa aaaacagatg cccatttgtt ggctgttttt cattcataat aatgtctaca  
1380  
ttgaaaaatt tatcaagaat ttaaaggatt tcatggaaga accaagtttt tctatgat  
1440  
taaaaaatgt acagtgttag gtattatttg aatggaaaga caccacaaaa aaaaatgtgc  
1500  
tccgactagg gggaaaacag tagttccgat tttttcccat tttttttatt ttattttctg  
1560  
gttgccttag cttccccccc tttttttgtg ttttttatta actagtgcac tgtcttatta  
1620  
aatcttcact gtatttaatg caggatgtgt gcttcagttg ctctgtgtat tttgatattt  
1680  
taatttagag gttttgtttg ctttttgaca ctagtgttaa gttactttgt tatagatgg  
1740  
atcctttacc ccttctta attttacagc agtacgtttt tttgtaacgt gagactgcag  
1800  
agtttgtttt tctatatgtg aaggattaca acacaaaaag ttatcctgcc attcagatgc  
1860  
tcagaactga atgtttctgc agatcttggt gcatttgtct ctagtgtgat atataaagg  
1920  
gtaattaaga cagagttctg ttaatcta atcaagtttgc gttagtgtg cattagcagt  
1980  
ataaaaagcta atataacta tatggtcttg caacagtttt aaagcctctg cataattgat  
2040  
aataaaaaatg catgacattc ttgtttttta tagactttta aaatcataat tttaggttta  
2100  
acacgtagat ctttgtacag ttgacttttt gacatagcaa ggccaaaaat aactttctga  
2160  
atattttttt cttgtgtata agtggaagg gcatttttca catataagtg ggctaacca  
2220  
tattttcaaa agaacttcat cattgtacaa ctaacaacag taactagccc ttaattatgg  
2280  
tgacagttcc ttattggtgt gtgtgagatt actctagcaa ctattacagt ataacacaga  
2340  
tgatcttctc cacacacccc atcaccaga taatttacag ttctgttaac agtgaggttg  
2400  
ataaagtatt actgataaaa aattatctaa ggaaaaaac agaaaattat ttggtgtggc  
2460

catcttacct gcttatgtct cctacacaaa gctaaatatt ctagcagtga tgtaatgaaa  
 2520  
 aattacatct tactgttgat atatgtatgc tctggtacac agatgtcatt ttgttgtcac  
 2580  
 agcactacag tgaaatacac aaaaaatgaa attcatataa tgacttaaat gtattatatg  
 2640  
 ttagaattga caacataaac tacttttgct ttgaaatgat gtatgcttca gtaaaatcat  
 2700  
 attcaaattt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2760  
 aaaaaa  
 2766

<210> 5020

<211> 433

<212> PRT

<213> Homo sapiens

<400> 5020

Xaa Leu Glu Tyr Trp Arg Arg Arg Glu Glu Glu Glu Arg Trp Arg Met  
 1 5 10 15  
 Glu Met Arg Arg Tyr Glu Glu Asp Met Tyr Trp Arg Arg Met Glu Glu  
 20 25 30  
 Glu Gln His His Trp Asp Asp Arg Arg Arg Met Pro Asp Gly Gly Tyr  
 35 40 45  
 Pro His Gly Pro Pro Gly Pro Leu Gly Leu Leu Gly Val Arg Pro Gly  
 50 55 60  
 Met Pro Pro Gln Pro Gln Gly Pro Ala Pro Leu Arg Arg Pro Asp Ser  
 65 70 75 80  
 Ser Asp Asp Arg Tyr Val Met Thr Lys His Ala Thr Ile Tyr Pro Thr  
 85 90 95  
 Glu Glu Glu Leu Gln Ala Val Gln Lys Ile Val Ser Ile Thr Glu Arg  
 100 105 110  
 Ala Leu Lys Leu Val Ser Asp Ser Leu Ser Glu His Glu Lys Asn Lys  
 115 120 125  
 Asn Lys Glu Gly Asp Asp Lys Lys Glu Gly Gly Lys Asp Arg Ala Leu  
 130 135 140  
 Lys Gly Val Leu Arg Val Gly Val Phe Ala Lys Gly Leu Leu Leu Arg  
 145 150 155 160  
 Gly Asp Arg Asn Val Asn Leu Val Leu Leu Cys Ser Glu Lys Pro Ser  
 165 170 175  
 Lys Thr Leu Leu Ser Arg Ile Ala Glu Asn Leu Pro Lys Gln Leu Ala  
 180 185 190  
 Phe Ile Ser Pro Glu Lys Tyr Asp Ile Lys Cys Ala Val Ser Glu Ala  
 195 200 205  
 Ala Ile Ile Leu Asn Ser Cys Val Glu Pro Lys Met Gln Val Thr Ile  
 210 215 220  
 Thr Leu Thr Ser Pro Ile Ile Arg Glu Glu Asn Met Arg Glu Gly Asp  
 225 230 235 240  
 Val Thr Ser Gly Met Val Lys Asp Pro Pro Asp Val Leu Asp Arg Gln  
 245 250 255  
 Lys Cys Leu Asp Ala Leu Ala Ala Leu Arg His Ala Lys Trp Phe Gln  
 260 265 270  
 Ala Arg Ala Asn Gly Leu Gln Ser Cys Val Ile Ile Ile Arg Ile Leu

**4200**



```

      1           5           10           15
Phe Glu Val Leu Arg Gln His Ser Thr Gly Asp Leu Gln Tyr Ser Pro
      20           25           30
Asp Tyr Lys Asn Tyr Leu Ala Leu Ile Asn His Arg Pro His Val Lys
      35           40           45
Gly Asn Ser Ser Cys Tyr Gly Val Leu Pro Thr Glu Glu Pro Val Tyr
      50           55           60
Asn Trp Arg Thr Val Ile Asn Ser Ala Ala Asp Phe Tyr Phe Glu Gly
65           70           75           80
Asn Ile His Gln Ser Leu Gln Asn Ile Thr Glu Asn Gln Leu Val Gln
      85           90           95
Pro Thr Ile Leu Gln Gln Lys Gly Gly Lys Gly Arg Lys Lys Leu Arg
      100          105          110
Leu Phe Glu Tyr Leu His Glu Ser Leu Cys Asn Pro
      115          120

```

&lt;210&gt; 5023

&lt;211&gt; 3482

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5023

```

ggggccgccc agaggccccg cgcagcgcga gggaagcctg ggggccagag gtcgcccgtg
60
ccgccatgcc gctgctcttc ctcgagcgc tcccctggcc cagcctccgc acctacacgg
120
gcctcagcgg cctggccctg ctgggcacca tcatcagcgc ctaccgcgcg ctcagccagc
180
ccgaggccgg ccccgccgag ccggaccagc taacggcctc gctgcagcct gagccgccgg
240
cgcccgcccg gccgagcgc gggggacccc gggcccgcga tgtggcccag tacctgctct
300
cagacagcct ctctgtgtgg gttctagtaa ataccgcttg ctgtgttttg atgttggtgg
360
ctaagctcat ccagtgtatt gtgtttggcc ctcttcgagt gagtgagaga cagcatctca
420
aagacaaatt ttggaatttt atttctaca agttcatttt catctttggt gtgctgaatg
480
tccagacagt ggaagagggt gtcattgtgt gcctctggtt tgccggactt gtctttctgc
540
acctgatggt tcagctctgc aaggatcgat ttgaatatct ttccttctcg cccaccacgc
600
cgatgagcag ccacggtcga gtctgtccc tgttggttgc catgctgctt tctgtgtg
660
gactggcggc cgtctgtctc atcaccggct acaccacgg aatgcacacc ttggctttca
720
tggctgcaga gtctcttctt gtgacagtga ggactgtcga tgtgatttta cgatacgtaa
780
ttcacctctg ggacctcaac cacgaaggga cgtgggaagg aaaggggacg tatgtctatt
840
acacagactt tgtcatggag ctactctcc tgtccctgga cctcatgcac catattcaca
900
tggtgttatt tggcaacatc tggttatcca tggccagcct ggtcatcttt atgcagctgc
960

```

gttacctgtt tcatgaggtg caacgtcgaa ttcgtcggca caagaactat ctacgtgtgg  
1020  
ttggaaacat ggaggccagg tttgcagttg caactccaga ggagctggct gtcaacaatg  
1080  
acgactgtgc catctgttgg gactccatgc aggctgcgag gaaactgccc tgtggacatc  
1140  
ttttccacaa ctctgtctt cgttcctggc tagaacaaga cacctcctgt ccaacatgca  
1200  
gaatgtctct taatattgcc gacaataatc gtgtcagggg agaacatcaa ggagagaact  
1260  
tggatgagaa tttggttcct gtagcagcag ccgaaggagg acctcgctta aaccaacaca  
1320  
atcacttctt ccatttcgat gggctctcga ttgcgagctg gctgccgagt ttttcggttg  
1380  
aagtgatgca caccaccaac attcttggca ttacgcaggc cagcaactcc cagctcaatg  
1440  
caatggctca tcagattcaa gagatgtttc cccagggttc ataccatctg gtactgcagg  
1500  
acctccagct gacacgctca gttgaaataa caacagacaa tattttagaa ggacggattc  
1560  
aagtaccttt tcctacacag cggtcagata gcatcagacc tgcattgaac agtcctgtgg  
1620  
aaaggccaag cagtgaccag gaagaggagg aaacttctgc tcagaccgag cgtgtgccac  
1680  
tggacctcag tcctcgctg gaggagacgc tggacttcgg cgagggtggaa gtggagccca  
1740  
gtgaggtgga agacttcgag gctcgtggga gccgcttctc caagtctgct gatgagagac  
1800  
agcgcattgt ggnatgcagc taaggacgaa ctctccagc aagctcgaa acgtttcttg  
1860  
aacaaaagtt ctgaagatga tgcggcctca gagagcttcc tcccctcgga aggtgcgtcc  
1920  
tctgaccccg tgacctcgcg tcgaaggatg ctggctgccg cccggaacgg aggttcaga  
1980  
agcagcagac ctctagcgc tcccttgctt tcctcagctg cctcctgcgc cctgtgcccg  
2040  
actgactgga ggaggcctgt cccaattctg ccgctccatg gaaaagcggg cttgactgca  
2100  
ttgccgctgt ataaagcatg tggctttata gtgtttggac agctgataaa tttaatcctt  
2160  
ctttgtaata ctttcaatgt gacatttctc tttcccttag aaacactgca aattttaact  
2220  
gtaggatga tctcttctgg tgttgactgg actgcttggg gtgggggacg atcaggagga  
2280  
agtgagncag tcgcctgcct gcagcaggca gcttctactc ctgcctcatg catacgcccc  
2340  
acaaatgcag gtgtcctgag caccacaccc agtgggaaga gtgtggggga ggcgcacagt  
2400  
gtgagcccg cccacgctg tggggtaaca tctgttatca aactgctgtc gttgttggg  
2460  
aagcatgtag actgtgccag agccagaccc acgggctcat gcaccctga gcagcagggc  
2520  
atcttggaaa aggaactctt ggttcgatac ctggagcaga ggaggggaaa gtccagggct  
2580

ataggggtgtg atgaagtcac ccctttctgt ccactacat ctgggactga ctttccgagc  
 2640  
 ctccagtcca aagccggctt gatttccgtg aactctgggtg ctctgcac tcattgagtgt  
 2700  
 gccccatggg tccccctccc tctcagcatt tccttgctcc gtctggacct ggggagtggg  
 2760  
 taggcagcaa gctttgggtt atggttttca ttcattgggtg aagtaaatta ggcagtgcta  
 2820  
 aagcctgtgg gtttggtcct tgaacaagat gtgggccttg caagatggga gagtaaacct  
 2880  
 tgaagggtt tattaagaa ataaaaaga acttttgtat cttttatcct gggagcactg  
 2940  
 cgttttccta gctgtgttat tcctgggtta attcagcaga gaaggtaagg tgtgaacct  
 3000  
 cctgccttgg agagggccca ggtcccaaat ctcttcaaat tcttcacatg ttaacttta  
 3060  
 aggatttgaa ccatgaagtc atagggtaca gacctcagtt ttatgcccc ttggattact  
 3120  
 tttttttttt ttttttttta ctcttgaaa gctttgtttt gtggtagtcc ttttgggaag  
 3180  
 aatccagtat tatctacaat tattggcaaa gtttaaagt attttacata acggaaagt  
 3240  
 tttagaatgt tgaaaagtaa ttgaaaagg tgataggtaa attttaggc aaagataatt  
 3300  
 tatttcaata aatctttcaa aagccttacc ttgaaatgct gttagtaaat ttctgtgatt  
 3360  
 tttttttttt aatttgtttt gctgagagca tagctatttg tttttattgt aaaacaataa  
 3420  
 taataataaa aagcaaaactc taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 3480  
 aa  
 3482

&lt;210&gt; 5024

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5024

Met	Arg	Asp	Ser	Ala	Cys	Trp	Xaa	Gln	Arg	Lys	Asp	Glu	Leu	Leu	Gln
1				5				10					15		
Gln	Ala	Arg	Lys	Arg	Phe	Leu	Asn	Lys	Ser	Ser	Glu	Asp	Asp	Ala	Ala
			20					25					30		
Ser	Glu	Ser	Phe	Leu	Pro	Ser	Glu	Gly	Ala	Ser	Ser	Asp	Pro	Val	Thr
		35					40					45			
Leu	Arg	Arg	Arg	Met	Leu	Ala	Ala	Ala	Arg	Asn	Gly	Gly	Phe	Arg	Ser
	50				55					60					
Ser	Arg	Pro	Pro	Ser	Ala	Pro	Leu	Pro	Ser	Ser	Ala	Ala	Ser	Cys	Ala
65					70					75				80	
Leu	Cys	Pro	Thr	Asp	Trp	Arg	Arg	Pro	Val	Pro	Ile	Leu	Pro	Leu	His
			85					90						95	
Gly	Lys	Ala	Gly	Leu	Thr	Ala	Leu	Pro	Leu	Tyr	Lys	Ala	Cys	Gly	Leu
			100					105					110		
Ile	Val	Phe	Gly	Gln	Leu	Ile	Asn	Leu	Ile	Leu	Leu	Cys	Asn	Thr	Phe

```

      115              120              125
Asn Val Thr Phe Leu Phe Pro Leu Glu Thr Leu Gln Ile Leu Thr Val
      130              135              140
Gly Met Ile Ser Ser Gly Val Asp Trp Thr Ala Trp Gly Gly Gly Arg
145              150              155              160
Ser Gly Gly Ser Glu Xaa Val Ala Cys Leu Gln Gln Ala Ala Ser Thr
      165              170              175
Pro Ala Ser Cys Ile Arg Pro Thr Asn Ala Gly Val Leu Ser Thr Thr
      180              185              190
Pro Ser Gly Lys Ser Val Gly Glu Ala His Ser Val Ser Pro Pro Pro
      195              200              205
Arg Arg Gly Val Thr Ser Val Ile Lys Leu Leu Ser Leu Leu Trp Lys
      210              215              220
His Val Asp Cys Ala Arg Ala Arg Pro Thr Gly Ser Cys Thr Pro Glu
225              230              235              240
Gln Gln Gly Ile Leu Glu Lys Glu Leu Leu Val Arg Tyr Leu Glu Gln
      245              250              255
Arg Arg Gly Lys Ser Arg Ala Ile Gly Cys Asp Glu Val Thr Pro Phe
      260              265              270
Cys Pro Thr Thr Ser Gly Thr Asp Phe Pro Ser Leu Gln Ser Lys Ala
      275              280              285
Gly Leu Ile Ser Val Asn Ser Gly Ala Pro Ala Ser His Glu Cys Ala
      290              295              300
Pro Trp Val Pro Ser Pro Leu Ser Ile Ser Leu Ser Arg Leu Asp Leu
305              310              315              320
Gly Ser Gly

```

&lt;210&gt; 5025

&lt;211&gt; 2596

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5025

```

ngttgcatgt actgtatgtg gagcagtgtg cagtgaagcg gaggcagagc ggctccgcga
60
gcttctctcc actttcccat agagaaaccc tgactggccg ctgagggcta gctacacaca
120
cgccctcagc cccggcgagc ccgcgaggtc actatcatat gacaaaggct ttgccgcagt
180
tcatcttctt ccctgtgtac tttccatttg ccttctctgga atcctgctgg catcacagaa
240
gctggaagtt gtgatgttcc actgaaatca caatggaaag tctgacttga ctggtcacag
300
taatgaaagg cagtaataga aataaggatc attcagcaga aggagaaggg gttggaaaac
360
gacaaaacg aaagtgtgct ttcagtggca tccatttgct agcaaagaaa cttcttgatt
420
tttcagaaga ggaagaagag gaagacgaag aggaggatat tggataaggt tcaacttctt
480
ggggggccgat ggcctaagag caagagtgtg gtgaaactga agatggatga atcaccagag
540
cagcgagccc ggagaccaat gaatgcattt cttttatttt gcaaacgcca tcgctctctt
600

```

gtacgtcagg aacacccag gcttgataac cgagggtgcta ccaagatact agctgattgg  
660  
tgggcccgttc ttgatccaaa ggaaaagcag aaatacacag acatggccaa ggagtataag  
720  
gatgcattta tgaaagcaaa tcctgggtac aaatgggtgct ctaccacaaa caagcctgtg  
780  
aaatccccac acccactgtc aatccacgaa agaaactttg ggccctccca tctgactctt  
840  
caagagactt gccaaagcccc aagaaagcaa agactgaaga aatgcctcag cttaactttg  
900  
gaatggctga tcctactcaa atgggaggcc tgagtatgct gctgttagct ggagaacatg  
960  
ctcttggcac accagaggta tcctctggca catgcaggcc tgatgtttca gaatctcctg  
1020  
aattacgtca gaagtcacca ttgtttcagt ttgccgagat atcttcaagt acgtccact  
1080  
ctgatgcttc taaaaagcag tgtcaaacat ctgccttggt tcagtgtgca gagatttctt  
1140  
caaacacttc gcagttgggt ggtgctgagc ctgtaaaacg ctgtggaaag tctgcactct  
1200  
ttcaactggc agagatgtgc ctggcatcag aagggatgaa aatggaagaa tcaaagctaa  
1260  
taaaagcaaa agaatccgat ggtggaagaa ttaaagaatt agagaaggga aaggaagaaa  
1320  
aagaaattaa aatggagaaa acagatgaaa ctaggttaca gaaggaagca gaatttgaaa  
1380  
aatcggctaa ggaaaattta agagattcta aggaattgag aaattttgag gcattgcaaa  
1440  
tagatgacat aatggctata aaaatggaag atcccaaaga aattagaaag gaagagttag  
1500  
aagaagatca caaatgtagt cattttcctg atttttctta ttctgccagt agcaagataa  
1560  
taattagtga tgttcccagt agaaaggatc atatgtgcca tcctcatgga attatgatca  
1620  
ttgaggatcc cgcagcatta aacaagccag aaaagctaaa aaagaaaaag aagaaaagca  
1680  
aatggatcg acatggaaat gataaatcca cacccaagaa gacttgcaaa aagaggcagt  
1740  
cttcggaatc tgacattgag agcgtcatat ataccattga agccgtcgca aaaggagact  
1800  
ggggcataga gaaacttgga gataccctc gcaagaaggt ccgcacatcc tcaagtggca  
1860  
agggaagcat tttggatgcc aagccaccaa agaaaaaagt gaaatcaaga gagaagaaaa  
1920  
tgtcaaagga gaaatcctca gacaccacca aagagtcaag acctccagat ttcattagta  
1980  
tttctgctag caagaacatt tctggtgaga caccagaggg tataaaagca gaaccattga  
2040  
cccctatgga agatgcacta ccaccagcc tatcaggaca ggccaagcct gaggacagtg  
2100  
actgtcacag aaaaatagaa acttgtggtt ccaggaaatc cgagaggtct tgcaaaggtg  
2160  
ctctttataa aaccctggtg tctgagggca tgctcacctc tctgcgagct aatgttgaca  
2220

gaggaaaacg aagctcagga aaaggaaact cctctgatca tgaaggggtgt tggaatgaag  
 2280  
 aaagctggac atttagtcag agtgggacca gtgggagcaa gaagttcaag aagacaaagc  
 2340  
 caaaagaaga ctgtctcctt ggctccgcaa agctggatga agaatttgaa aaaaaattca  
 2400  
 acagcctccc tcaatatagt cctgttacat ttgaccggaa atgtgtacct gtcccaagaa  
 2460  
 aaaagaagaa gactggaaat gtgtcctcag aaccgactaa aaccagcaaa ggtcctttcc  
 2520  
 agtctcagaa aaagaactta ttccacaaaa ttgtcagcaa atataagcac aaaaaggaga  
 2580  
 agcccaatgt tccgga  
 2596

<210> 5026  
 <211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 5026  
 Met Asp Glu Ser Pro Glu Gln Arg Ala Arg Arg Pro Met Asn Ala Phe  
 1 5 10 15  
 Leu Leu Phe Cys Lys Arg His Arg Ser Leu Val Arg Gln Glu His Pro  
 20 25 30  
 Arg Leu Asp Asn Arg Gly Ala Thr Lys Ile Leu Ala Asp Trp Trp Ala  
 35 40 45  
 Val Leu Asp Pro Lys Glu Lys Gln Lys Tyr Thr Asp Met Ala Lys Glu  
 50 55 60  
 Tyr Lys Asp Ala Phe Met Lys Ala Asn Pro Gly Tyr Lys Trp Cys Pro  
 65 70 75 80  
 Thr Thr Asn Lys Pro Val Lys Ser Pro His Pro Leu Ser Ile His Glu  
 85 90 95  
 Arg Asn Phe Gly Pro Ser His Leu Thr Leu Gln Glu Thr Cys Gln Ala  
 100 105 110  
 Pro Arg Lys Gln Arg Leu Lys Lys Cys Leu Ser Leu Thr Leu Glu Trp  
 115 120 125  
 Leu Ile Leu Leu Lys Trp Glu Ala  
 130 135

<210> 5027  
 <211> 359  
 <212> DNA  
 <213> Homo sapiens

<400> 5027  
 ngcggaggcg gggcaggcgc cctgggcgca aggcacggag gcaagggcca gggccagcag  
 60  
 cagcgggcgcg agcggggaca tgggtggcagt gcgggcaaga cgcacaagtt ctctgccggc  
 120  
 acctaccgcg gcctggagga gtaccgcccgg ggcattcttag gagactggtc caacgctatc  
 180  
 tccgcgctct actgcagggtg cagctgatgc attgctggtc tctcatctgc agcttccaca  
 240

gagtccaag cccctcactc agcccatccc tgggctctgc tccggggccc caagaccag  
 300  
 gaggaggagc gttctgcctg cccctcccca cctcccctgc aatacagcct ttgtgcggn  
 359

<210> 5028  
 <211> 68  
 <212> PRT  
 <213> Homo sapiens

<400> 5028  
 Xaa Gly Gly Gly Ala Gly Ala Leu Gly Ala Arg His Gly Gly Lys Gly  
 1 5 10 15  
 Gln Gly Gln Gln Gln Arg Ala Gln Arg Gly His Gly Gly Ser Ala Gly  
 20 25 30  
 Lys Thr His Lys Phe Ser Ala Gly Thr Tyr Pro Arg Leu Glu Glu Tyr  
 35 40 45  
 Arg Arg Gly Ile Leu Gly Asp Trp Ser Asn Ala Ile Ser Ala Leu Tyr  
 50 55 60  
 Cys Arg Cys Ser  
 65

<210> 5029  
 <211> 1440  
 <212> DNA  
 <213> Homo sapiens

<400> 5029  
 nnacttttta tatcagtacg agctttataa ttcttctttt gttaagttca ttactactaa  
 60  
 tgggttaaatt gtcctacaat taaatgatgg caagcccttc aaactggctt ttatttttta  
 120  
 ttcattgtgtg ctgatatttt tggatcattt gtttactcgt tttttgagtt tacctgattt  
 180  
 tttttttctc tcaggttaata ggaaatgaat gatgatggaa aagtcaatgc tagctctgag  
 240  
 gggtaacttta ttttagttgg attttctaata tggccttata tggaagtagt tctcttttgt  
 300  
 gttattttga tcttctgctt gatgacactg ataggaaacc tggtcatcat catcctgacg  
 360  
 tacctggact cccatctcca tactcccttg tatttcttcc tttcaaactc ctcatttctg  
 420  
 gatctctgct acaccaccag ctctatccct cagttgctgg tcagtctctg ggggtgtggaa  
 480  
 aagaccattt cttatgctgg ttgcatgggt caactttact tttttctcac actgggaacc  
 540  
 acagagtgtg tcctactggt ggtgatgtcc tatgaccgtt atgcagctgt gtgtagacct  
 600  
 ttgcattaca ctgtcctcat gcactctcgt ttctgccact tgttggtgtg ggcttcttgg  
 660  
 gtaagtgggt ttacaaacc agcacttcat tcctccttca ccttctgggt acctctgtgt  
 720  
 ggacaccgcc aaatagatca ctttttctgt gaagtccgg cacttttatg attatcattt  
 780

gtcaataccc gtgaaaataa actgaccctc atgatcacaa gctccatttt tgttctgcta  
 840  
 cttctcacc ctttttcac ttctatgggt gctattgccc aggctgtact gaggatgcag  
 900  
 tcaaccactg ggcttcagaa agtatttgga acatgtggag ctcatcatat ggttgtatct  
 960  
 ctctttttca ttccggccat gtgcatgtat ctccagccac catcagggaa ttctcaagat  
 1020  
 caaggcaagt tcattgctct cttttatact gttgttacac ctagtcttaa ccctctaata  
 1080  
 tacacctca gaaacaaaga tgtaagaggg gtagtgaaga gactaagggg gtgggagtga  
 1140  
 gcctgtgttt gtgtgatatt aacaatataa tggagtcttt cctcacaatg attcatccat  
 1200  
 ctgttcattt atcaaccatt cttttattca ctactctgt tagcacttgc tgagcatgta  
 1260  
 ctctaacaaa gtctgtggaga tcctggtaac aggttaggaat aaaacacatt cagcttaaata  
 1320  
 accattcact tttggagaaa acagctgtgt aaaatcaaga taaaacatct atagtgatgt  
 1380  
 ttttccatgg cacaaccta atgaatacaa gaaagacttt tcctgattaa aaataaggca  
 1440

&lt;210&gt; 5030

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5030

Met	Asn	Asp	Asp	Gly	Lys	Val	Asn	Ala	Ser	Ser	Glu	Gly	Tyr	Phe	Ile
1				5				10						15	
Leu	Val	Gly	Phe	Ser	Asn	Trp	Pro	Tyr	Leu	Glu	Val	Val	Leu	Phe	Val
		20					25						30		
Val	Ile	Leu	Ile	Phe	Cys	Leu	Met	Thr	Leu	Ile	Gly	Asn	Leu	Phe	Ile
	35					40					45				
Ile	Ile	Leu	Thr	Tyr	Leu	Asp	Ser	His	Leu	His	Thr	Pro	Leu	Tyr	Phe
	50				55						60				
Phe	Leu	Ser	Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Tyr	Thr	Thr	Ser	Ser
65				70					75					80	
Ile	Pro	Gln	Leu	Leu	Val	Ser	Leu	Trp	Gly	Val	Glu	Lys	Thr	Ile	Ser
		85						90						95	
Tyr	Ala	Gly	Cys	Met	Val	Gln	Leu	Tyr	Phe	Phe	Leu	Thr	Leu	Gly	Thr
	100						105						110		
Thr	Glu	Cys	Val	Leu	Leu	Val	Val	Met	Ser	Tyr	Asp	Arg	Tyr	Ala	Ala
	115					120						125			
Val	Cys	Arg	Pro	Leu	His	Tyr	Thr	Val	Leu	Met	His	Ser	Arg	Phe	Cys
	130				135						140				
His	Leu	Leu	Ala	Val	Ala	Ser	Trp	Val	Ser	Gly	Phe	Thr	Asn	Pro	Ala
145				150						155				160	
Leu	His	Ser	Ser	Phe	Thr	Phe	Trp	Val	Pro	Leu	Cys	Gly	His	Arg	Gln
		165						170					175		
Ile	Asp	His	Phe	Cys	Glu	Val	Pro	Ala	Leu	Leu					
		180					185								



<210> 5031  
 <211> 505  
 <212> DNA  
 <213> Homo sapiens

<400> 5031  
 tggcgcgcct tgacgagtga gccgggggagc catggacaac tgtttggcgg ccgcagcgc  
 60  
 gaatgggggtg gaccgacgtt ccctgcagcg ttcagcaagg ctggctctag aagtgtgtga  
 120  
 gagggccaag aggaggggcgg tggactggca tgccctggag cgtcccaaag gctgcatggg  
 180  
 ggtccttgcc cgggaggcgc cccacctaga gaaacagccg gcagccggcc cgcagcgcgt  
 240  
 tctcccgga gagagagaag agagaccccc aacccttagt gcttccttca gaacaatggc  
 300  
 tgaattcatg gactatactt caagtcagtg tgggaaatat tattcatctg tgccagagga  
 360  
 aggaggggca acccatgtct atcgttatca cagaggcgag tcgaagctgc acatgtgctt  
 420  
 ggacataggg aatggtcaga gaaaagacag aaaaaagaca tcccttggtc ctggaggcag  
 480  
 ctatcaaata tcagagcatg ctcca  
 505

<210> 5032  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

<400> 5032  
 Met Asp Asn Cys Leu Ala Ala Ala Ala Leu Asn Gly Val Asp Arg Arg  
 1 5 10 15  
 Ser Leu Gln Arg Ser Ala Arg Leu Ala Leu Glu Val Leu Glu Arg Ala  
 20 25 30  
 Lys Arg Arg Ala Val Asp Trp His Ala Leu Glu Arg Pro Lys Gly Cys  
 35 40 45  
 Met Gly Val Leu Ala Arg Glu Ala Pro His Leu Glu Lys Gln Pro Ala  
 50 55 60  
 Ala Gly Pro Gln Arg Val Leu Pro Gly Glu Arg Glu Glu Arg Pro Pro  
 65 70 75 80  
 Thr Leu Ser Ala Ser Phe Arg Thr Met Ala Glu Phe Met Asp Tyr Thr  
 85 90 95  
 Ser Ser Gln Cys Gly Lys Tyr Tyr Ser Ser Val Pro Glu Glu Gly Gly  
 100 105 110  
 Ala Thr His Val Tyr Arg Tyr His Arg Gly Glu Ser Lys Leu His Met  
 115 120 125  
 Cys Leu Asp Ile Gly Asn Gly Gln Arg Lys Asp Arg Lys Lys Thr Ser  
 130 135 140  
 Leu Gly Pro Gly Gly Ser Tyr Gln Ile Ser Glu His Ala Pro  
 145 150 155

<210> 5033  
 <211> 2888

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5033

nnggatgagg acaaggagga cgacttccgg gctccgctgt acaagaacgt ggatgtgcga  
60  
ggtatccagg tccgcatgaa gtggtgtgcc acgtgccact tctaccgccc gccgcgctgc  
120  
tcccactgca gcgtctgtga caactgtgta gaggtgactg ggaagtccg cgggggtgtg  
180  
aaccctttca cccgaggctg ctgtgggaat gtggagcacg tgctgtgtag cccctggcg  
240  
ccccggtacg tgggtggagcc accccggctg ccgctcgcgg tgagtgtgaa gccgccttc  
300  
cttaggcctg aactcctgga ccgagctgca ccgctcaagg tcaagcttag tgacaacggg  
360  
ctgaaggctg gcctgggccc tagcaagtcc aagggcagcc tggaccggct ggatgagaag  
420  
ccactggact tggggccacc actgcccccc aagatagagg ctggcacgtt cagcagtga  
480  
ctgcagaccc cgcgccagg cagtgtgag agtgccctgt cgggtgcagag gaccagcccc  
540  
ccgacacctg ccatgtacaa gtttaggccg gctttcccca cgggtcccaa ggtgcccttc  
600  
tgtggaccag gcgagcaggt tccaggccct gattccctga ccctggggga cgacaacatc  
660  
cgtagcctgg actttgtgtc cgagccgagc ctggacctcc ctgactatgg gccagggggc  
720  
ctgcatgcag cctaccgcc atccccaccg ctcagcgctt ctgatgcctt ctcgggcgct  
780  
ttgcgtccc tgagcctcaa ggctcagc cggcggggcg gggatcatgt ggccctgcag  
840  
cccctgcgct ctgagggggg gccccccacg cccaccgta gcatttttgc ccccatgca  
900  
ctgcccacc gcaacggcag cctgtcctat gacagcctgc tcaatcctgg ctgcctgg  
960  
ggccacgct gccctgccca cccagcagtt ggcgtggccg gataccactc accctacctg  
1020  
catcctgggg caacgggcga cccgccacgg cccctacccc gcagcttcag ccccgctgctg  
1080  
ggcccccgcc cccgggagcc ctgcctgtg cgctacgaca acctgtccag gaccatcatg  
1140  
gcatccatcc aggagcgcaa ggacaggag gagcgtgagc gcctgctgcg ctcccaggcc  
1200  
gactcactct tggcgactc aggcgtctat gacgtccca gtcctacag cctgcagcag  
1260  
gccagtgtgc tgtccgaggg cccccgaggt cccgcgctgc gctatggctc cagagacgac  
1320  
cttgtggctg ggcccggctt cgggtggcgcc cgcaaccctg ccctgcagac gtcactgtcc  
1380  
tcgctgtcca gctccgtgag ccgtgcaccg cggacgtcgt cctcctccct gcaggctgat  
1440  
caggccagca gcaacgcccc cggggccccc gccagcagt ggctcacaca ggtcacctgc  
1500

acgccagggc ctgccctccc cgcccggcac tccccactca ccatacctacg cgggccccaa  
1560  
agctgtcgcc ttcatccaca cggacctccc agagccaccg ccctcgctga ccgtgcagag  
1620  
ggaccaccct cagctgaaga ctcccccaag taagcttaat gggcagtcct cgggcctggc  
1680  
ccggctggga cctgccaccg gccccccagg gccctctgcc agccctacac ggcacacgct  
1740  
ggttaagaag gtgtccggcg tgggtgggac cacctacgag atctcgggtg gaggactgac  
1800  
tgccacacat ccgccatggt gccacgggga ccaggacccc gcagcgcacc cccctcccc  
1860  
accaacttct ctgccccagg gacccgaggc caccacagcc tgggtgtggac ccacggcgg  
1920  
gagagagtgc cagcctcca cagcttgccc caagcgctct gcctgcccggt ccactcatct  
1980  
gcccattggg aagtcggctc actgggacaa gggccactgg gctgggtctgt gtctgggcct  
2040  
gtcccatggc tggggcagtg agggggccca gtcagcctct ttggggcacc ctctctcagc  
2100  
caggcttggc ccactgccat caccagcac cccagatcac cgccaggcca gcccacaatg  
2160  
gtcccccttac ggacaggctc cagagatgga cagaggcacc cagggccccc accgtccttc  
2220  
tgacacagcc tgtgggctcc cggaccgagt gtcccccgcc aggctactcc taactaacgc  
2280  
gttgcccttc acggaccccg ctggaagctt gtagcttggc aaggctgatg cttctgccct  
2340  
ggcctgctct ggggtggtgt ggataggtgg acagacggcc agccagccag ctgtggccgg  
2400  
gggcccggct ccattgtgtc cgtgtctgtg tgctgtgctg ccgcgccgtg tctgatgtgt  
2460  
cagtgtccg gccgccgtg tccctttcat caaagcctta accttgctt tatgtctttg  
2520  
tgaggaggca cgggggggca ggcgggagca ggcacggggg tgatgtgtcc acagggggct  
2580  
ggtgacaccc agagccccct cccagccct caggccctcc ctgccaaact ggagaacccc  
2640  
acccaaggc atgccacgtc cgcagccccg gcctggctgc ggtgctcgcg ccgtgggaaa  
2700  
gcacactggg gaggggtcag tgcttcctt ggtgtcaggg acctgagagt aagcacatga  
2760  
cagcgtctgc ttgcgttgtg tctgttttat gtttttatat ctacatctat atatctataa  
2820  
ttttattaaa aaaaagaaaa agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
2880  
aaaaaaaa  
2888

&lt;210&gt; 5034

&lt;211&gt; 550

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5034

```

Xaa Asp Glu Asp Lys Glu Asp Asp Phe Arg Ala Pro Leu Tyr Lys Asn
 1           5           10           15
Val Asp Val Arg Gly Ile Gln Val Arg Met Lys Trp Cys Ala Thr Cys
          20           25           30
His Phe Tyr Arg Pro Pro Arg Cys Ser His Cys Ser Val Cys Asp Asn
          35           40           45
Cys Val Glu Val Thr Gly Lys Phe Arg Gly Gly Val Asn Pro Phe Thr
          50           55           60
Arg Gly Cys Cys Gly Asn Val Glu His Val Leu Cys Ser Pro Leu Ala
65           70           75           80
Pro Arg Tyr Val Val Glu Pro Pro Arg Leu Pro Leu Ala Val Ser Leu
          85           90           95
Lys Pro Pro Phe Leu Arg Pro Glu Leu Leu Asp Arg Ala Ala Pro Leu
          100          105          110
Lys Val Lys Leu Ser Asp Asn Gly Leu Lys Ala Gly Leu Gly Arg Ser
          115          120          125
Lys Ser Lys Gly Ser Leu Asp Arg Leu Asp Glu Lys Pro Leu Asp Leu
          130          135          140
Gly Pro Pro Leu Pro Pro Lys Ile Glu Ala Gly Thr Phe Ser Ser Asp
145          150          155          160
Leu Gln Thr Pro Arg Pro Gly Ser Ala Glu Ser Ala Leu Ser Val Gln
          165          170          175
Arg Thr Ser Pro Pro Thr Pro Ala Met Tyr Lys Phe Arg Pro Ala Phe
          180          185          190
Pro Thr Gly Pro Lys Val Pro Phe Cys Gly Pro Gly Glu Gln Val Pro
          195          200          205
Gly Pro Asp Ser Leu Thr Leu Gly Asp Asp Asn Ile Arg Ser Leu Asp
          210          215          220
Phe Val Ser Glu Pro Ser Leu Asp Leu Pro Asp Tyr Gly Pro Gly Gly
225          230          235          240
Leu His Ala Ala Tyr Pro Pro Ser Pro Pro Leu Ser Ala Ser Asp Ala
          245          250          255
Phe Ser Gly Ala Leu Arg Ser Leu Ser Leu Lys Ala Ser Ser Arg Arg
          260          265          270
Gly Gly Asp His Val Ala Leu Gln Pro Leu Arg Ser Glu Gly Gly Pro
          275          280          285
Pro Thr Pro His Arg Ser Ile Phe Ala Pro His Ala Leu Pro Asn Arg
          290          295          300
Asn Gly Ser Leu Ser Tyr Asp Ser Leu Leu Asn Pro Gly Ser Pro Gly
305          310          315          320
Gly His Ala Cys Pro Ala His Pro Ala Val Gly Val Ala Gly Tyr His
          325          330          335
Ser Pro Tyr Leu His Pro Gly Ala Thr Gly Asp Pro Pro Arg Pro Leu
          340          345          350
Pro Arg Ser Phe Ser Pro Val Leu Gly Pro Arg Pro Arg Glu Pro Ser
          355          360          365
Pro Val Arg Tyr Asp Asn Leu Ser Arg Thr Ile Met Ala Ser Ile Gln
          370          375          380
Glu Arg Lys Asp Arg Glu Glu Arg Glu Arg Leu Leu Arg Ser Gln Ala
385          390          395          400
Asp Ser Leu Phe Gly Asp Ser Gly Val Tyr Asp Ala Pro Ser Ser Tyr
          405          410          415
Ser Leu Gln Gln Ala Ser Val Leu Ser Glu Gly Pro Arg Gly Pro Ala

```

420 425 430  
 Leu Arg Tyr Gly Ser Arg Asp Asp Leu Val Ala Gly Pro Gly Phe Gly  
 435 440 445  
 Gly Ala Arg Asn Pro Ala Leu Gln Thr Ser Leu Ser Ser Leu Ser Ser  
 450 455 460  
 Ser Val Ser Arg Ala Pro Arg Thr Ser Ser Ser Ser Leu Gln Ala Asp  
 465 470 475 480  
 Gln Ala Ser Ser Asn Ala Pro Gly Ala Pro Ala Gln Gln Trp Leu Thr  
 485 490 495  
 Gln Val Thr Cys Thr Pro Gly Pro Ala Leu Pro Ala Arg His Ser Pro  
 500 505 510  
 Leu Thr Ile Leu Arg Gly Pro Gln Ser Cys Arg Leu His Pro His Gly  
 515 520 525  
 Pro Pro Arg Ala Thr Ala Leu Ala Asp Arg Ala Glu Gly Pro Pro Ser  
 530 535 540  
 Ala Glu Asp Ser Pro Lys  
 545 550

&lt;210&gt; 5035

&lt;211&gt; 2002

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5035

cgcccgtagc ggcacgccat ggacttcaac atgaagaagc tggcgtagcga cgccgggcatc  
 60  
 ttcttcaccc gggcggtgca gttcacggag gagaaatttg gccaggctga gaagactgag  
 120  
 cttgatgccc actttgaaaa ccttctggcc cgggcagaca gcaccaagaa ctggacagag  
 180  
 aagatcttga ggcagacaga ggtgctgctg cagcccaacc ccagtgcccg agtggaggag  
 240  
 ttctgtatg agaagctgga caggaaggct ccctcaaggg tcaccaacgg ggagctgctg  
 300  
 gctcagtaca tggcagacgc ggccagttag ctggggccga ccaccccta tgggaagaca  
 360  
 ctgatcaagg tggcagaagc tgaaaagcaa ctgggagccg cggagaggga ttttatccac  
 420  
 acggcctcca tcagcttctt cacacccttg cgcaacttcc tggaggggga ctggaagacc  
 480  
 atctcgaagg agagtcggct cctccaaaac cggcgctctg acttggtatgc ctgcaaagcg  
 540  
 aggctgaaga aggccaaggc tgcagaagcc aaagccacgc tctggaatga tgaagtggac  
 600  
 aaggccgagc aggagctccg cgtggcccag acagagtttg accggcaagc agaagtgacc  
 660  
 cgtctcttgc tggagggat cagtagcact cacgtgaacc acctgcgctg cctccacgag  
 720  
 ttctcaagt ctacagacaac ctactacgca cagtgtacc gccacatgct ggacttgtag  
 780  
 aagcagctgg gcagctccca gggtagcata tcccggcacc ttcgtgggca ccacagagcc  
 840  
 cgctccac ccctgagcag cacctcacc accactgctg cggccactat gcctgtgggtg  
 900

ccctctgtgg ccagcctggc ccctccgggg gaggcctcgc tctgcctgga agaggtggcc  
 960  
 ccccttgcca gtgggaccgg caaagctcgg gtgctctatg actacgaggc agccgacagc  
 1020  
 agtgagctgg ccctgctggc tgatgagctc atcactgtct acagcctgcc tggcatggac  
 1080  
 cctgactggc tcattggcga gagaggcaac aagaagggca aggtccctgt cacctacttg  
 1140  
 gaactgctca gctaggcagg tgcccccatc cccccgcac tctggcctag gcaggagagg  
 1200  
 atgggcgcag ccctgccact taacttgttt gttggtgaca cagttgttca gagtggggag  
 1260  
 aattcacccc attctgtccc tgcccctagt cacctagctg tgaggggtgcc tgaggctgaa  
 1320  
 tggctccacc cctccccag ccctgcttct gacctgtggc tctggagccc ctgcccctgc  
 1380  
 ctgcatcccc gagcacccca ccctccaggc tccactaagg agggaggggc tgtctgcagc  
 1440  
 agctgcactc agcacctagg ccagggtggg gccgcccagc atgggctcag gaagccccag  
 1500  
 gtgcactcag cgagagccct gcctttcagt tgccaaaagc tgcacagggc gaatgaggca  
 1560  
 aggcacacag ggctctggca gcccctgggg actgggagct gcccctggga ggggagagcc  
 1620  
 tgccagggc tgggtgtggg ccgggagcag catcttccgg tgctatcctc ccctcccacc  
 1680  
 cctcacagct caagccaagt ccagcggccg cagtcttcac ctctccacac tcaacttttta  
 1740  
 tctggtgttt ttacttctgc ctgcgtttgc tctctagcca ataaaccgtc cttgtgtgag  
 1800  
 agcgaaagc tcgggtgctc tatgactacg aggcagccga cagcagttag ctggccctgc  
 1860  
 tggctgatga gctcatcact gtctacagcc tgccctggcatt ggacctgac tggctcattg  
 1920  
 gcgagagagg caacaagaag ggcaagggtc ctgtcaccta cttggaactg ctcagctagg  
 1980  
 caggtgcccc catccccccc gc  
 2002

&lt;210&gt; 5036

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5036

Arg	Pro	Cys	Gly	His	Ala	Met	Asp	Phe	Asn	Met	Lys	Lys	Leu	Ala	Ser
1				5					10					15	
Asp	Ala	Gly	Ile	Phe	Phe	Thr	Arg	Ala	Val	Gln	Phe	Thr	Glu	Glu	Lys
			20					25					30		
Phe	Gly	Gln	Ala	Glu	Lys	Thr	Glu	Leu	Asp	Ala	His	Phe	Glu	Asn	Leu
			35				40					45			
Leu	Ala	Arg	Ala	Asp	Ser	Thr	Lys	Asn	Trp	Thr	Glu	Lys	Ile	Leu	Arg
	50					55					60				
Gln	Thr	Glu	Val	Leu	Leu	Gln	Pro	Asn	Pro	Ser	Ala	Arg	Val	Glu	Glu

```

65          70          75          80
Phe Leu Tyr Glu Lys Leu Asp Arg Lys Val Pro Ser Arg Val Thr Asn
      85          90          95
Gly Glu Leu Leu Ala Gln Tyr Met Ala Asp Ala Ala Ser Glu Leu Gly
      100         105         110
Pro Thr Thr Pro Tyr Gly Lys Thr Leu Ile Lys Val Ala Glu Ala Glu
      115         120         125
Lys Gln Leu Gly Ala Ala Glu Arg Asp Phe Ile His Thr Ala Ser Ile
      130         135         140
Ser Phe Leu Thr Pro Leu Arg Asn Phe Leu Glu Gly Asp Trp Lys Thr
145         150         155         160
Ile Ser Lys Glu Ser Arg Leu Leu Gln Asn Arg Arg Leu Asp Leu Asp
      165         170         175
Ala Cys Lys Ala Arg Leu Lys Lys Ala Lys Ala Ala Glu Ala Lys Ala
      180         185         190
Thr Leu Trp Asn Asp Glu Val Asp Lys Ala Glu Gln Glu Leu Arg Val
      195         200         205
Ala Gln Thr Glu Phe Asp Arg Gln Ala Glu Val Thr Arg Leu Leu Leu
      210         215         220
Glu Gly Ile Ser Ser Thr His Val Asn His Leu Arg Cys Leu His Glu
225         230         235         240
Phe Val Lys Ser Gln Thr Thr Tyr Tyr Ala Gln Cys Tyr Arg His Met
      245         250         255
Leu Asp Leu Gln Lys Gln Leu Gly Ser Ser Gln Gly Ala Ile Ser Arg
      260         265         270
His Leu Arg Gly His His Arg Ala Arg Leu Pro Pro Leu Ser Ser Thr
      275         280         285
Ser Pro Thr Thr Ala Ala Ala Thr Met Pro Val Val Pro Ser Val Ala
      290         295         300
Ser Leu Ala Pro Pro Gly Glu Ala Ser Leu Cys Leu Glu Glu Val Ala
305         310         315         320
Pro Pro Ala Ser Gly Thr Arg Lys Ala Arg Val Leu Tyr Asp Tyr Glu
      325         330         335
Ala Ala Asp Ser Ser Glu Leu Ala Leu Leu Ala Asp Glu Leu Ile Thr
      340         345         350
Val Tyr Ser Leu Pro Gly Met Asp Pro Asp Trp Leu Ile Gly Glu Arg
      355         360         365
Gly Asn Lys Lys Gly Lys Val Pro Val Thr Tyr Leu Glu Leu Leu Ser
      370         375         380

```

&lt;210&gt; 5037

&lt;211&gt; 2102

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5037

```

gcactgcagc ctgggcgaca gagcaaaact ccgtctcaac aacaacgaca acaaaaattc
60
agtcttcagg ttttcttttag aaaacttgaa gatctggcca cagctggcat cctggcagcg
120
gtttgctgga gttgaggggc agccgtccct ctgcagggtg ggtcaccctc ctgttaacca
180
cgccctgccc cgccccgctt cctccctctc gtgcgtcacc aagcatttgc tgttggtttc
240

```

ctcatagtag tgataagaga aaagtgaat atctttgtct cctgtctct gtcaaaagt  
300  
ggaaaacgca agatagacca ggagggccgt gtgtttcaag aaaagtggga gagagcgat  
360  
ttcttcgtgg aagtacagaa tattccaaca tgtctcatat gcaaacaaag catgtctgtg  
420  
tccaaagaat ataacctaag acgccactat caaaccaatc acagcaagca ttatgaccag  
480  
tatacggaag gaatgcgtga cgagaagctt cacgagctga aaaaagggct caggaagtat  
540  
ctcttaggct catcagacac cgagtgtccc gagcaaaaac aagtgtttgc aaaccaagt  
600  
ccaaccaga aatccccctg gcagcctgta gaggacctag ctgggaactt atgggagaag  
660  
ttacgtgaaa aaatcaggct ttttgtggca tattctatcg caatcgatga gatcacggat  
720  
ataaataata ccaccagtt ggccatattc atccgtggtg tcgatgagaa ttctgatgtg  
780  
tccgaagaac ttctggacac ggtgcccatt acgggtacaa aatctggcaa cgagatcttt  
840  
tcgcgtgttg agaagagcct gaaaaagttc tgtatcgact ggtcgaaatt agtaagcgtg  
900  
gcctccactg gcaccccagc gatgggtgat gccataacg ggcttgtcac aaaactgaag  
960  
tccaggggtg cgacgttctg caaggggtgc gaactgaagt ccatctgttg tataattcat  
1020  
ccggaatcac tctgtgctca gaagttgaag atggaccacg tcatggacgt ggtagtgaag  
1080  
tccgtgaact ggatagctc ccggggactg aaccacagcg agttcacaac cttgctctat  
1140  
gagctggaca gccagtatgg tagcctcctg tactacacgg agattaagtg gctcagtcgc  
1200  
gggctcgtgc taaagagatt tttcgaatcc ttggaagaaa tcgactcctt catgtcatcc  
1260  
agagggaaac ccctgcctca actgagctcc atagattgga tccgagacct ggccttcttg  
1320  
gttgacatga cgatgcctt gaacgctttg aacatctctc tccaaggaca ctcccaaact  
1380  
gtcacgcaga tgtatgacct gatccgggctg ttctagcaa aactgtgcct ctgggagact  
1440  
catttgacga ggaataatct ggcccacttt cccaccctga aattggcttc cagaaatgaa  
1500  
agcgatggcc tgaactacat tcccaaaatc gcggaactca agaccgaatt ccagaaaagg  
1560  
ctgtctgatt tcaaactcta cgaaagcgaa ctgactctgt tcagctcccc gttctccacg  
1620  
aagatcgaca gtgtgcacga ggagctccag atggagggtta tcgacctgca atgcaacacg  
1680  
gtcctgaaga cgaaatacga caaggtggga ataccagaat tctacaagta cctctggggg  
1740  
agctaccgca aatacaagca ccattgcgca aagattcttt ccatgttcgg gagcacctac  
1800  
atctgcgaac agctgttctc cattatgaaa ctgagcaaaa caaaatactg ctcccagtta  
1860



aaggattccc agtgggattc tgtactccac atcgcaacgt gatggagaga aaactcctgg  
 1920  
 cagggcccta tgggtggaaa ggctggagtc ttctagtcac aagggattgg gagatgacaa  
 1980  
 aatgaatttt tttttctttt ttgagatgga gtcttgctct gtcgccagg ttggagtga  
 2040  
 gtggcgtgat ctcggcttac tgcaacttcc agtcctggg ttcgaacgat tctcctgcct  
 2100  
 ca  
 2102

<210> 5038

<211> 533

<212> PRT

<213> Homo sapiens

<400> 5038

Gly	Lys	Arg	Lys	Ile	Asp	Gln	Glu	Gly	Arg	Val	Phe	Gln	Glu	Lys	Trp
1			5					10						15	
Glu	Arg	Ala	Tyr	Phe	Phe	Val	Glu	Val	Gln	Asn	Ile	Pro	Thr	Cys	Leu
		20					25						30		
Ile	Cys	Lys	Gln	Ser	Met	Ser	Val	Ser	Lys	Glu	Tyr	Asn	Leu	Arg	Arg
	35					40					45				
His	Tyr	Gln	Thr	Asn	His	Ser	Lys	His	Tyr	Asp	Gln	Tyr	Thr	Glu	Arg
	50				55					60					
Met	Arg	Asp	Glu	Lys	Leu	His	Glu	Leu	Lys	Lys	Gly	Leu	Arg	Lys	Tyr
65					70					75				80	
Leu	Leu	Gly	Ser	Ser	Asp	Thr	Glu	Cys	Pro	Glu	Gln	Lys	Gln	Val	Phe
			85					90					95		
Ala	Asn	Pro	Ser	Pro	Thr	Gln	Lys	Ser	Pro	Val	Gln	Pro	Val	Glu	Asp
		100					105					110			
Leu	Ala	Gly	Asn	Leu	Trp	Glu	Lys	Leu	Arg	Glu	Lys	Ile	Arg	Ser	Phe
	115					120						125			
Val	Ala	Tyr	Ser	Ile	Ala	Ile	Asp	Glu	Ile	Thr	Asp	Ile	Asn	Asn	Thr
	130					135					140				
Thr	Gln	Leu	Ala	Ile	Phe	Ile	Arg	Gly	Val	Asp	Glu	Asn	Phe	Asp	Val
145				150					155					160	
Ser	Glu	Glu	Leu	Leu	Asp	Thr	Val	Pro	Met	Thr	Gly	Thr	Lys	Ser	Gly
			165					170					175		
Asn	Glu	Ile	Phe	Ser	Arg	Val	Glu	Lys	Ser	Leu	Lys	Lys	Phe	Cys	Ile
		180						185					190		
Asp	Trp	Ser	Lys	Leu	Val	Ser	Val	Ala	Ser	Thr	Gly	Thr	Pro	Ala	Met
	195					200						205			
Val	Asp	Ala	Asn	Asn	Gly	Leu	Val	Thr	Lys	Leu	Lys	Ser	Arg	Val	Ala
	210				215						220				
Thr	Phe	Cys	Lys	Gly	Ala	Glu	Leu	Lys	Ser	Ile	Cys	Cys	Ile	Ile	His
225				230					235					240	
Pro	Glu	Ser	Leu	Cys	Ala	Gln	Lys	Leu	Lys	Met	Asp	His	Val	Met	Asp
			245					250					255		
Val	Val	Val	Lys	Ser	Val	Asn	Trp	Ile	Cys	Ser	Arg	Gly	Leu	Asn	His
		260					265						270		
Ser	Glu	Phe	Thr	Thr	Leu	Leu	Tyr	Glu	Leu	Asp	Ser	Gln	Tyr	Gly	Ser
	275					280						285			
Leu	Leu	Tyr	Tyr	Thr	Glu	Ile	Lys	Trp	Leu	Ser	Arg	Gly	Leu	Val	Leu

290                      295                      300  
 Lys Arg Phe Phe Glu Ser Leu Glu Glu Ile Asp Ser Phe Met Ser Ser  
 305                      310                      315                      320  
 Arg Gly Lys Pro Leu Pro Gln Leu Ser Ser Ile Asp Trp Ile Arg Asp  
                     325                      330                      335  
 Leu Ala Phe Leu Val Asp Met Thr Met His Leu Asn Ala Leu Asn Ile  
                     340                      345                      350  
 Ser Leu Gln Gly His Ser Gln Ile Val Thr Gln Met Tyr Asp Leu Ile  
                     355                      360                      365  
 Arg Ala Phe Leu Ala Lys Leu Cys Leu Trp Glu Thr His Leu Thr Arg  
                     370                      375                      380  
 Asn Asn Leu Ala His Phe Pro Thr Leu Lys Leu Ala Ser Arg Asn Glu  
 385                      390                      395                      400  
 Ser Asp Gly Leu Asn Tyr Ile Pro Lys Ile Ala Glu Leu Lys Thr Glu  
                     405                      410                      415  
 Phe Gln Lys Arg Leu Ser Asp Phe Lys Leu Tyr Glu Ser Glu Leu Thr  
                     420                      425                      430  
 Leu Phe Ser Ser Pro Phe Ser Thr Lys Ile Asp Ser Val His Glu Glu  
                     435                      440                      445  
 Leu Gln Met Glu Val Ile Asp Leu Gln Cys Asn Thr Val Leu Lys Thr  
                     450                      455                      460  
 Lys Tyr Asp Lys Val Gly Ile Pro Glu Phe Tyr Lys Tyr Leu Trp Gly  
 465                      470                      475                      480  
 Ser Tyr Pro Lys Tyr Lys His His Cys Ala Lys Ile Leu Ser Met Phe  
                     485                      490                      495  
 Gly Ser Thr Tyr Ile Cys Glu Gln Leu Phe Ser Ile Met Lys Leu Ser  
                     500                      505                      510  
 Lys Thr Lys Tyr Cys Ser Gln Leu Lys Asp Ser Gln Trp Asp Ser Val  
                     515                      520                      525  
 Leu His Ile Ala Thr  
 530

&lt;210&gt; 5039

&lt;211&gt; 3059

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5039

gggccatgca gggcgagac cggctaaacc ctgctgagac ccggctccgt gcgtccaggg  
 60  
 gcggctaattg ccctcacgct gtctacgctg ctgcaaccgg gccgcatctg gacggggcgc  
 120  
 cgcgcgcgga ggcagccgg gccagcaatg ctgcttgagg cctctctggt ggggggtgctg  
 180  
 ctgttctcca agctggtgct gaaactgcc tggaccagg tgggattctc cctgttgctc  
 240  
 ctctacttgg gatctggcgg ctggcgcttc atccgggtct tcatcaagac catcaggcgc  
 300  
 gatattcttg gcggcctggt cctcctgaag gtgaaggcaa aggtgcgaca gtgcctgcag  
 360  
 gagcggcgga cagtgcccat tttgtttgcc tctaccgttc ggccgccccc cgacaagacg  
 420  
 gccctgatct tcgagggcac agataccac tggaccttcc gccagctgga tgagtactca  
 480

agcagtgtag ccaacttcct gcaggcccg ggccctggcct cgggcgatgt ggctgccatc  
540  
ttcatggaga accgcaatga gtctgtgggc ctatggctgg gcatggccaa gctcgggtgtg  
600  
gaggcagccc tcatcaacac caacctgcgg cgggatgctc tgctccactg cctcaccacc  
660  
tcgcgcgcac gggcccttgt ctttggcagc gaaatggcct cagccatctg tgagggtccat  
720  
gccagcccg acccctcgct cagcctcttc tgctctggct cctgggagcc cggtgccgtg  
780  
cctccaagca cagaacacct ggaccctctg ctgaaagatg ctccaagca ccttcccagt  
840  
tgtcctgaca agggcttcac agataaactg ttctacatct acacatccgg caccacaggg  
900  
ctgccccagg ccgcatcgt ggtgcacagc aggtattacc gcatggctgc cctgggtgtac  
960  
tatggattcc gcatgcggcc caacgacatc gtctatgact gcctccccct ctaccactca  
1020  
gcaggaaaca tcgtgggaat cggccagtgc ctgctgcatg gcatgacggt ggtgattcgg  
1080  
aagaagttct cagcctcccg gttctgggac gattgtatca agtacaactg cacgattgtg  
1140  
cagtacattg gtgaactgtg ccgctacctc ctgaaccagc caccgcggga ggcagaaaac  
1200  
cagcaccagg ttccgatggc actaggcaat gcctccggca gtccatctgg accaactttt  
1260  
ccagccgctt ccacataccc cagggtggctg agttctacgg ggccagagtg caactgtagc  
1320  
ctgggcaact tcgacagcca ggtggggggc tgtggtttca atagccgcat cctgtccttc  
1380  
gtgtacccca tccggttggg acgtgtcaac gaggacacca tggagctgat ccggggggccc  
1440  
gacggcgtct gcattccctg ccagccaggt gagccggggc agctgggtggg ccgcatcatc  
1500  
cagaaagacc ccctgcgccc cttcgatggc tacctcaacc agggcgccaa caacaagaag  
1560  
attgccaaagg atgtcttcaa gaagggggac caggcctacc ttactggtga tgtgctggtg  
1620  
atggacgagc tgggctacct gtacttccga gaccgcactg gggacacgtt ccgctggaaa  
1680  
ggtgagaacg tgtccaccac cgaggtggaa ggcacactca gccgcctgct ggacatggct  
1740  
gacgtggccg tgtatggtgt cgaggtgcca ggaaccgagg gccgggcccg aatgggtgct  
1800  
gtggccagcc cactggcaa ctgtgacctg gagcgctttg ctccaggtctt ggagaaggaa  
1860  
cttcccctgt atgcgcgccc catcttctct cgctcctctg ctgagctgca caaaacagga  
1920  
acctacaagt tccagaagac agagctacgg aaggaggcct ttgaccggc tattgtgaag  
1980  
acccgctgtt ctatctagat gcagaagggc cgctacgtcc cgctggacca agaggcctac  
2040  
agccgcatcc aggcaggcaa ggagaagctg tgattccccc catccctctg agggccggcg  
2100

gatgctggat ccgagagcccc aggttccgcc ccagagcggg cctggacaag gccagaccaa  
 2160  
 agcaagcagg gcctggcacc tccatcctga ggtgctgccc ctccatccaa aactgccaa  
 2220  
 tgactcattg ccttcccaac ccttccagag gctttctgtg aaagtctcat gtccaagttc  
 2280  
 cgtcttcttg gctgggcagg ccctcgggtt ccagggctga gactgacggg ttttctcagg  
 2340  
 atgatgtctt gggtaggggt agggagagga caaggggtca ccgagccctt ccagagagagc  
 2400  
 agggagctta taaatggaac cagagcagaa gtccccagac tcaggaagtc aacagagtgg  
 2460  
 gcagggacag tggtagcatc catctggtgg ccaaagagaa tcgtagcccc agagctgccc  
 2520  
 aagttcactg ggctccaccc ccacctccag gaggggagga gaggacctga catctgaagg  
 2580  
 tggccccctga tgccccatct acagcaggag gtcaggacca cgccccctggc ctctccccac  
 2640  
 tcacccatcc tcctccctgg gtggctgcct gattatccct caggcagggc ctctcagtc  
 2700  
 ttgtgggtct gtgtcacctc catctcagtc ttggcctggc tatgagggga ggaggaatgg  
 2760  
 gagcgggggc tcaggggcca ataaactctg ccttgagtcc tcctagcctg tgtgcaaacc  
 2820  
 acccaagccc accctgaccc cagaacccca cagccccact gtggccgctt gatccccac  
 2880  
 gccaaccccc tggcccattg acccgctca tctgttcatt cacttatcta agctgagggg  
 2940  
 gtagcaggta agatgccga gccctgcct ccaatgtgct gggtcagccg gggcagtgcc  
 3000  
 catgtgaatc tggcaagggtg tttaacagtg tgggcttgaa agtccaaacc aaaaaaaaa  
 3059

<210> 5040

<211> 616

<212> PRT

<213> Homo sapiens

<400> 5040

Met	Leu	Leu	Gly	Ala	Ser	Leu	Val	Gly	Val	Leu	Leu	Phe	Ser	Lys	Leu
1				5					10					15	
Val	Leu	Lys	Leu	Pro	Trp	Thr	Gln	Val	Gly	Phe	Ser	Leu	Leu	Phe	Leu
		20					25					30			
Tyr	Leu	Gly	Ser	Gly	Gly	Trp	Arg	Phe	Ile	Arg	Val	Phe	Ile	Lys	Thr
	35					40						45			
Ile	Arg	Arg	Asp	Ile	Phe	Gly	Gly	Leu	Val	Leu	Leu	Lys	Val	Lys	Ala
	50				55					60					
Lys	Val	Arg	Gln	Cys	Leu	Gln	Glu	Arg	Arg	Thr	Val	Pro	Ile	Leu	Phe
65				70					75					80	
Ala	Ser	Thr	Val	Arg	Arg	His	Pro	Asp	Lys	Thr	Ala	Leu	Ile	Phe	Glu
		85				90						95			
Gly	Thr	Asp	Thr	His	Trp	Thr	Phe	Arg	Gln	Leu	Asp	Glu	Tyr	Ser	Ser
	100					105						110			
Ser	Val	Ala	Asn	Phe	Leu	Gln	Ala	Arg	Gly	Leu	Ala	Ser	Gly	Asp	Val

115	120	125
Ala Ala Ile Phe Met Glu Asn Arg Asn Glu Phe Val Gly Leu Trp Leu		
130	135	140
Gly Met Ala Lys Leu Gly Val Glu Ala Ala Leu Ile Asn Thr Asn Leu		
145	150	155
Arg Arg Asp Ala Leu Leu His Cys Leu Thr Thr Ser Arg Ala Arg Ala		160
	165	170
Leu Val Phe Gly Ser Glu Met Ala Ser Ala Ile Cys Glu Val His Ala		175
180	185	190
Ser Pro Asp Pro Ser Leu Ser Leu Phe Cys Ser Gly Ser Trp Glu Pro		
195	200	205
Gly Ala Val Pro Pro Ser Thr Glu His Leu Asp Pro Leu Leu Lys Asp		
210	215	220
Ala Pro Lys His Leu Pro Ser Cys Pro Asp Lys Gly Phe Thr Asp Lys		
225	230	235
Leu Phe Tyr Ile Tyr Thr Ser Gly Thr Thr Gly Leu Pro Lys Ala Ala		240
	245	250
Ile Val Val His Ser Arg Tyr Tyr Arg Met Ala Ala Leu Val Tyr Tyr		255
260	265	270
Gly Phe Arg Met Arg Pro Asn Asp Ile Val Tyr Asp Cys Leu Pro Leu		
275	280	285
Tyr His Ser Ala Gly Asn Ile Val Gly Ile Gly Gln Cys Leu Leu His		
290	295	300
Gly Met Thr Val Val Ile Arg Lys Lys Phe Ser Ala Ser Arg Phe Trp		
305	310	315
Asp Asp Cys Ile Lys Tyr Asn Cys Thr Ile Val Gln Tyr Ile Gly Glu		320
	325	330
Leu Cys Arg Tyr Leu Leu Asn Gln Pro Pro Arg Glu Ala Glu Asn Gln		335
340	345	350
His Gln Val Arg Met Ala Leu Gly Asn Ala Ser Gly Ser Pro Ser Gly		
355	360	365
Pro Thr Phe Pro Ala Ala Ser Thr Tyr Pro Arg Trp Leu Ser Ser Thr		
370	375	380
Gly Pro Glu Cys Asn Cys Ser Leu Gly Asn Phe Asp Ser Gln Val Gly		
385	390	395
Ala Cys Gly Phe Asn Ser Arg Ile Leu Ser Phe Val Tyr Pro Ile Arg		400
	405	410
Leu Val Arg Val Asn Glu Asp Thr Met Glu Leu Ile Arg Gly Pro Asp		415
420	425	430
Gly Val Cys Ile Pro Cys Gln Pro Gly Glu Pro Gly Gln Leu Val Gly		
435	440	445
Arg Ile Ile Gln Lys Asp Pro Leu Arg Arg Phe Asp Gly Tyr Leu Asn		
450	455	460
Gln Gly Ala Asn Asn Lys Lys Ile Ala Lys Asp Val Phe Lys Lys Gly		
465	470	475
Asp Gln Ala Tyr Leu Thr Gly Asp Val Leu Val Met Asp Glu Leu Gly		480
	485	490
Tyr Leu Tyr Phe Arg Asp Arg Thr Gly Asp Thr Phe Arg Trp Lys Gly		495
500	505	510
Glu Asn Val Ser Thr Thr Glu Val Glu Gly Thr Leu Ser Arg Leu Leu		
515	520	525
Asp Met Ala Asp Val Ala Val Tyr Gly Val Glu Val Pro Gly Thr Glu		
530	535	540
Gly Arg Ala Gly Met Ala Ala Val Ala Ser Pro Thr Gly Asn Cys Asp		

545		550		555		560									
Leu	Glu	Arg	Phe	Ala	Gln	Val	Leu	Glu	Lys	Glu	Leu	Pro	Leu	Tyr	Ala
			565						570					575	
Arg	Pro	Ile	Phe	Leu	Arg	Leu	Leu	Pro	Glu	Leu	His	Lys	Thr	Gly	Thr
		580						585					590		
Tyr	Lys	Phe	Gln	Lys	Thr	Glu	Leu	Arg	Lys	Glu	Ala	Phe	Asp	Pro	Ala
	595						600					605			
Ile	Val	Lys	Thr	Arg	Cys	Ser	Ile								
	610					615									

&lt;210&gt; 5041

&lt;211&gt; 2461

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5041

```

ctcgcgatag cgaccgggag cagggcgcg ggcgggaccc aggtccgagg cgaggaagcc
60
ggaagccagg cgcggggagc ctcccccttc gactgcagcc tcgctccgtg ccttctgcgc
120
gcctgggata ccggagcctg cctaggttct gtgcgctccc gccaggccg gtgcccgcgc
180
cccgctgcg cccagggcag gtcccaggcc tccggctgct cccggccgaa ggtggggaca
240
ggcagtggca ggcaccacta gcgagggcgt ttgggaaccc agggtagaca cggcgagcc
300
atggggaccg cgcttggtga ccatgaggac atgacggcca cccggctgct ctgggacgac
360
cccgagtgcg agatcgagcg tctgagcgc ctgaccgcag cctgggatcg cctgcggcag
420
cgcggcctgg aacagagggtg tctgcggttg tcagcccgcg aggcctcgga agaggagctg
480
ggcctggtgc acagcccaga gtatgtatcc ctggtcaggg agaccaggt cctaggcaag
540
gaggagctgc aggcgctgtc cggacagttc gacgccatct acttccaccc gagtaccttt
600
cactgcgcgc ggctggccgc aggggctgga ctgcagctgg tggacgctgt gctcactgga
660
gctgtgcaaa atgggcttgc cctggtgagg cctcccgggc accatggcca gagggcggct
720
gccaacgggt tctgctgtgt caacaacgtg gccatagcag ctgcacatgc caagcagaaa
780
cacgggctac acaggatcct cgctgtggac tgggatgtgc accatggcca ggggatccag
840
tatctctttg aggatgaccc cagcgtcctt tacttctcct ggcaccgcta tgagcatggg
900
cgcttctggc ctttctgctg agagtcagat gcagacgcag tggggcgggg acagggcctc
960
ggcttcactg tcaacctgcc ctggaaccag gttgggatgg gaaacgctga ctacgtggct
1020
gccttctgac acctgctgct cccactggcc tttgagtttg accctgagct ggtgctggtc
1080
tcggcaggat ttgactcagc catcggggac cctgaggggc aaatgcaggc cagccagag
1140

```

tgcttcgccc acctcacaca gctgctgcag gtgctggccg gcggccgggt ctgtgccgtg  
 1200  
 ctggagggcg gctaccacct ggagtcactg gcggagtcag tgtgcatgac agtacagacg  
 1260  
 ctgctgggtg acccggcccc acccctgtca gggccaatgg cgccatgtca gaggtgcgag  
 1320  
 gggagtggcc tagagtccat ccagagtgcc cgtgctgccc agggcccgca ctggaagagc  
 1380  
 ctccagcagc aagatgtgac cgctgtgccg atgagcccca gcagccactc cccagagggg  
 1440  
 aggcctccac ctctgtgcc tgggggtcca gtgtgtaagg cagctgcac tgcaccgagc  
 1500  
 tccctcctgg accagccgtg cctctgcccc gcaccctctg tccgcaccgc tgttgccctg  
 1560  
 acaacgccgg atatcacatt ggttctgccc cctgacgtca tccaacagga agcgtcagcc  
 1620  
 ctgagggagg agacagaagc ctgggccagg ccacacgagt ccctggcccc ggaggaggcc  
 1680  
 ctactgcac ttgggaagct cctgtacctc ttagatggga tgetggatgg gcaggtgaac  
 1740  
 agtggatatag cagccactcc agcctctgct gcagcagcca ccctggatgt ggctgttcgg  
 1800  
 agaggcctgt cccacggagc ccagaggctg ctgtgcgtgg ccctgggaca gctggaccgg  
 1860  
 cctccagacc tcgcccata gggaggagt ctgtggctga acatcagggg caaggaggcg  
 1920  
 gctgccctat ccatgttcca tgtctccacg ccaactgccag tgatgaccgg tggtttctctg  
 1980  
 agctgcatct tgggcttggg gctgccccctg gcctatggct tccagcctga cctgggtgctg  
 2040  
 gtggcgctgg ggcctggcca tggcctgcag ggccccacg ctgcactcct ggctgcaatg  
 2100  
 cttcggggggc tggcaggggg ccgagtcctg gccctcctgg aggagaactc cacaccccag  
 2160  
 ctagcagggg tccctggccc ggtgctgaat ggagaggcac ctccctagcct aggccttcc  
 2220  
 tctgtggcct cccagagga cgtccaggcc ctgatgtacc tgagagggca gctggagcct  
 2280  
 cagtgaaga tgttcagtg ccatactcac ctgggtggctt gaaatcggcc aagggtgggag  
 2340  
 catttacacc gcagaaatga caccgcacgc cagcgccccg cgcccgcat ccggacccca  
 2400  
 agcccacggc tccctcgact ctggggcacg gaaccccgcc cactcccaat ccctggcgcg  
 2460  
 c  
 2461

&lt;210&gt; 5042

&lt;211&gt; 686

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5042

Arg Gly Arg Leu Gly Thr Gln Gly Asp His Gly Ala Ala Met Gly Thr

1	5	10	15
Ala Leu Val Tyr His Glu Asp Met Thr Ala Thr Arg Leu Leu Trp Asp			
20		25	30
Asp Pro Glu Cys Glu Ile Glu Arg Pro Glu Arg Leu Thr Ala Ala Leu			
35		40	45
Asp Arg Leu Arg Gln Arg Gly Leu Glu Gln Arg Cys Leu Arg Leu Ser			
50		55	60
Ala Arg Glu Ala Ser Glu Glu Glu Leu Gly Leu Val His Ser Pro Glu			
65		70	75
Tyr Val Ser Leu Val Arg Glu Thr Gln Val Leu Gly Lys Glu Glu Leu			
85		90	95
Gln Ala Leu Ser Gly Gln Phe Asp Ala Ile Tyr Phe His Pro Ser Thr			
100		105	110
Phe His Cys Ala Arg Leu Ala Ala Gly Ala Gly Leu Gln Leu Val Asp			
115		120	125
Ala Val Leu Thr Gly Ala Val Gln Asn Gly Leu Ala Leu Val Arg Pro			
130		135	140
Pro Gly His His Gly Gln Arg Ala Ala Ala Asn Gly Phe Cys Val Phe			
145		150	155
Asn Asn Val Ala Ile Ala Ala Ala His Ala Lys Gln Lys His Gly Leu			
165		170	175
His Arg Ile Leu Val Val Asp Trp Asp Val His His Gly Gln Gly Ile			
180		185	190
Gln Tyr Leu Phe Glu Asp Asp Pro Ser Val Leu Tyr Phe Ser Trp His			
195		200	205
Arg Tyr Glu His Gly Arg Phe Trp Pro Phe Leu Arg Glu Ser Asp Ala			
210		215	220
Asp Ala Val Gly Arg Gly Gln Gly Leu Gly Phe Thr Val Asn Leu Pro			
225		230	235
Trp Asn Gln Val Gly Met Gly Asn Ala Asp Tyr Val Ala Ala Phe Leu			
245		250	255
His Leu Leu Leu Pro Leu Ala Phe Glu Phe Asp Pro Glu Leu Val Leu			
260		265	270
Val Ser Ala Gly Phe Asp Ser Ala Ile Gly Asp Pro Glu Gly Gln Met			
275		280	285
Gln Ala Thr Pro Glu Cys Phe Ala His Leu Thr Gln Leu Leu Gln Val			
290		295	300
Leu Ala Gly Gly Arg Val Cys Ala Val Leu Glu Gly Gly Tyr His Leu			
305		310	315
Glu Ser Leu Ala Glu Ser Val Cys Met Thr Val Gln Thr Leu Leu Gly			
325		330	335
Asp Pro Ala Pro Pro Leu Ser Gly Pro Met Ala Pro Cys Gln Arg Cys			
340		345	350
Glu Gly Ser Ala Leu Glu Ser Ile Gln Ser Ala Arg Ala Ala Gln Ala			
355		360	365
Pro His Trp Lys Ser Leu Gln Gln Gln Asp Val Thr Ala Val Pro Met			
370		375	380
Ser Pro Ser Ser His Ser Pro Glu Gly Arg Pro Pro Pro Leu Leu Pro			
385		390	395
Gly Gly Pro Val Cys Lys Ala Ala Ala Ser Ala Pro Ser Ser Leu Leu			
405		410	415
Asp Gln Pro Cys Leu Cys Pro Ala Pro Ser Val Arg Thr Ala Val Ala			
420		425	430
Leu Thr Thr Pro Asp Ile Thr Leu Val Leu Pro Pro Asp Val Ile Gln			



435                      440                      445  
 Gln Glu Ala Ser Ala Leu Arg Glu Glu Thr Glu Ala Trp Ala Arg Pro  
 450                      455                      460  
 His Glu Ser Leu Ala Arg Glu Glu Ala Leu Thr Ala Leu Gly Lys Leu  
 465                      470                      475                      480  
 Leu Tyr Leu Leu Asp Gly Met Leu Asp Gly Gln Val Asn Ser Gly Ile  
 485                      490                      495  
 Ala Ala Thr Pro Ala Ser Ala Ala Ala Thr Leu Asp Val Ala Val  
 500                      505                      510  
 Arg Arg Gly Leu Ser His Gly Ala Gln Arg Leu Leu Cys Val Ala Leu  
 515                      520                      525  
 Gly Gln Leu Asp Arg Pro Pro Asp Leu Ala His Asp Gly Arg Ser Leu  
 530                      535                      540  
 Trp Leu Asn Ile Arg Gly Lys Glu Ala Ala Ala Leu Ser Met Phe His  
 545                      550                      555                      560  
 Val Ser Thr Pro Leu Pro Val Met Thr Gly Gly Phe Leu Ser Cys Ile  
 565                      570                      575  
 Leu Gly Leu Val Leu Pro Leu Ala Tyr Gly Phe Gln Pro Asp Leu Val  
 580                      585                      590  
 Leu Val Ala Leu Gly Pro Gly His Gly Leu Gln Gly Pro His Ala Ala  
 595                      600                      605  
 Leu Leu Ala Ala Met Leu Arg Gly Leu Ala Gly Gly Arg Val Leu Ala  
 610                      615                      620  
 Leu Leu Glu Glu Asn Ser Thr Pro Gln Leu Ala Gly Ile Leu Ala Arg  
 625                      630                      635                      640  
 Val Leu Asn Gly Glu Ala Pro Pro Ser Leu Gly Pro Ser Ser Val Ala  
 645                      650                      655  
 Ser Pro Glu Asp Val Gln Ala Leu Met Tyr Leu Arg Gly Gln Leu Glu  
 660                      665                      670  
 Pro Gln Trp Lys Met Leu Gln Cys His Pro His Leu Val Ala  
 675                      680                      685

&lt;210&gt; 5043

&lt;211&gt; 1824

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5043

gccggtggca cgacagttgc tgcagggaaat cttttaaacg agagcgagaa ggactgcggg  
 60  
 caggaccggc gggctcctgg gggtcagccg tgccgcctcg ttacgatgac cagtgtggtt  
 120  
 aagacagtgt atagcctgca gccccctct gcgctgagcg gcggccagcc ggcagacaca  
 180  
 caaactcggg ccacttctaa gagtctctta cctgttaggt ccaaagaagt cgatgtttcc  
 240  
 aaacagcttc attcaggagg tccagagaat gatgttacaa aaatcaccaa actgagacga  
 300  
 gagaatgggc aaatgaaagc tactgacact gccaccagaa ggaatgtcag aaaaggctac  
 360  
 aaaccactga gtaagcaaaa atcagaggaa gagctcaagg acaagaacca gctgttagaa  
 420  
 gccgtcaaca agcagttgca ccagaagttg actgaaactc agggagagct gaaggacctg  
 480

accagaagg tagagctgct ggagaagttt cgggacaact gtttggaat tttggagagc  
540  
aagggccttg atccagcttt aggcagttag accctggcat cacgacaaga atccactact  
600  
gatcacatgg actctatggt gctgtagaa actttgcaag aggagctgaa gctttttaac  
660  
gaaacagcca aaaagcagat ggaggagtta caggccttaa aggtaaagct ggagatgaaa  
720  
gaggaaagag tccgattcct agaacagcaa accttatgta acaatcaagt aaatgattta  
780  
acaacagccc ttaaggaaat ggagcagcta ttagaaatgt aagaagaagc aagtggccag  
840  
atggctccct cttgggcata aaatctcaga ggaagctact taggacatca tcttggccat  
900  
gatcttctgg gactcaccat ctccagaatg aaaacaattt ctacagtaga cttaaggaca  
960  
gtttatgctg aaatggcaat tcctcattta agcaagtttt cccaaccttc aggttggtca  
1020  
gccctcctga gcctcacagg tggataattg aggcctacaa gagaggggag cctaggagct  
1080  
tggattgacc ttctagtcaa ccacctgact tcagcacacc attacaatcg ggagactaaa  
1140  
ccaacaacca gaggatctaa aatgtcacat tcagattttc aggaagaaaa tcttcattac  
1200  
agtggagcac aaatgttcca tacaagacat cattgaggag ccatgctgtc cccttctaac  
1260  
ctgaaacaca ttctttccca tcttggttgg gcttctgtac ctcttatta atttatgaac  
1320  
ctgaagtgtc ttgaagtgtt ttgggcttaa taaatggggt gaaagtatag gtagcagtaa  
1380  
cacctacatg aaacaatata ccttgatct ttaatactaa attacttttc ttttttaagt  
1440  
ctacttttaa aataaatact tctgtaaata ttctgactgt aacattgaga aatgaaaata  
1500  
gccttttaac ctagatatgt cagttgatca ttattgaact aatttagtta acaagtccaa  
1560  
gatattctga cttaatctag aatatttttc tgctactctt taagagtcct gtggctagtc  
1620  
cctctgtctc ccaagagcat tggetagtct cctgagggtg ttgcccattt gtagcagtgg  
1680  
tttcaccagg tctgtggcca cttgctgccc atgttttccc tgcactccag cctgggtgac  
1740  
aagagcaaga ctccatctct aaataaataa ataaataaat aaataaataa ataaataaat  
1800  
aaaatagttg aaatggcaaa cttt  
1824

&lt;210&gt; 5044

&lt;211&gt; 273

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5044

Ala Gly Gly Thr Thr Val Ala Ala Gly Asn Leu Leu Asn Glu Ser Glu

1	5	10	15
Lys Asp Cys Gly Gln Asp Arg Arg Ala Pro Gly Val Gln Pro Cys Arg			
20	25	30	
Leu Val Thr Met Thr Ser Val Val Lys Thr Val Tyr Ser Leu Gln Pro			
35	40	45	
Pro Ser Ala Leu Ser Gly Gly Gln Pro Ala Asp Thr Gln Thr Arg Ala			
50	55	60	
Thr Ser Lys Ser Leu Leu Pro Val Arg Ser Lys Glu Val Asp Val Ser			
65	70	75	80
Lys Gln Leu His Ser Gly Gly Pro Glu Asn Asp Val Thr Lys Ile Thr			
85	90	95	
Lys Leu Arg Arg Glu Asn Gly Gln Met Lys Ala Thr Asp Thr Ala Thr			
100	105	110	
Arg Arg Asn Val Arg Lys Gly Tyr Lys Pro Leu Ser Lys Gln Lys Ser			
115	120	125	
Glu Glu Glu Leu Lys Asp Lys Asn Gln Leu Leu Glu Ala Val Asn Lys			
130	135	140	
Gln Leu His Gln Lys Leu Thr Glu Thr Gln Gly Glu Leu Lys Asp Leu			
145	150	155	160
Thr Gln Lys Val Glu Leu Leu Glu Lys Phe Arg Asp Asn Cys Leu Ala			
165	170	175	
Ile Leu Glu Ser Lys Gly Leu Asp Pro Ala Leu Gly Ser Glu Thr Leu			
180	185	190	
Ala Ser Arg Gln Glu Ser Thr Thr Asp His Met Asp Ser Met Leu Leu			
195	200	205	
Leu Glu Thr Leu Gln Glu Glu Leu Lys Leu Phe Asn Glu Thr Ala Lys			
210	215	220	
Lys Gln Met Glu Glu Leu Gln Ala Leu Lys Val Lys Leu Glu Met Lys			
225	230	235	240
Glu Glu Arg Val Arg Phe Leu Glu Gln Gln Thr Leu Cys Asn Asn Gln			
245	250	255	
Val Asn Asp Leu Thr Thr Ala Leu Lys Glu Met Glu Gln Leu Leu Glu			
260	265	270	
Met			

&lt;210&gt; 5045

&lt;211&gt; 462

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5045

cataaatggg acatttactt cacaagctgt tttcccaggg tcttcctctg ggtatgtctg  
60  
aaatataaaa atctggactg ggattgaaga ttgtgtttac aaatgctttt gaataggatt  
120  
tctcctgcag ttgttacgta gcttttcaga aacacacaaa ctacaaataa tgaacaacat  
180  
ctgcaatgat tcggcagggt ggcagcatcc acgctctcca cccaaaccct ggtgggattt  
240  
ggagaggccg ctggtgggca gaggttgccc ctaagcatgg cagcctccgg cttactgcac  
300  
ccagcctgtg gggcggctca gtagcccgtg acatggtggc ctgttgtctc ttctcttgtt  
360

ctagtaagca ctatcctttg tactccctca acgtggcctc catgtggttg aagctagggg  
 420  
 gactctacat gggcctggaa cacaaagccg ctagggatga aa  
 462

<210> 5046  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

<400> 5046  
 Met Ile Arg Gln Gly Gly Ser Ile His Ala Leu His Pro Asn Pro Gly  
 1 5 10 15  
 Gly Ile Trp Arg Gly Arg Trp Trp Ala Glu Val Gly Pro Lys His Gly  
 20 25 30  
 Ser Leu Arg Leu Thr Ala Pro Ser Leu Trp Gly Gly Ser Val Ala Arg  
 35 40 45  
 Asp Met Val Ala Cys Cys Leu Phe Ser Cys Ser Ser Lys His Tyr Pro  
 50 55 60  
 Leu Tyr Ser Leu Asn Val Ala Ser Met Trp Leu Lys Leu Gly Arg Leu  
 65 70 75 80  
 Tyr Met Gly Leu Glu His Lys Ala Ala Arg Asp Glu  
 85 90

<210> 5047  
 <211> 3380  
 <212> DNA  
 <213> Homo sapiens

<400> 5047  
 gggtcgcggt cctcggagcg cttctgcagc ccgggcaaag gccggnngct gcgggctctg  
 60  
 cagcccttcc aggtggggga cttgctgttc tcctgcccg cctatgccta cgtgctcacg  
 120  
 gtcaacgagc ggggcaacca ctgcgagtac tgcttcacca ggaaagaagg attgtccaaa  
 180  
 tgtggaagat gcaagcaggc attttactgc aatgtggagt gtcagaaaga agattggccc  
 240  
 atgcacaagc tggaatgttc tcccatggtt gtttttgggg aaaactggaa tccctcggag  
 300  
 actgtaagac taacagcaag gattctggcc aaacagaaaa tccaccaga gagaacacct  
 360  
 tcggaaaaat tgtagctgt gaaggagttt gaatcacatc tggataagtt agacaatgag  
 420  
 aagaaggatt tgattcagag tgacatagct gctctccatc acttttactc caagcatctc  
 480  
 gaattccctg acaatgatag cctcgtagta ctctttgcac aggttaactg taatggcttc  
 540  
 acaattgaag atgaagaact ttctcatttg ggatcagcga tatttctga tgttgcatg  
 600  
 atgaatcata gctgttgccc caatgtcatt gtgacctaca aagggaccct ggcagaagtc  
 660  
 agagctgtac aggaaatcaa gccgggagag gaggttttta ccagctatat tgatctcctg  
 720

taccaaacgg aagatagaaa tgaccgggta agagattctt atttctttac ctgtgagtgc  
780  
caggagtgtt ccaccaagga caaggataag gccagggtgg aaatccggaa gctcagcgat  
840  
cccccaaagg cagaagccat ccgagacatg gtcagatatg cacgcaacgt cattgaagag  
900  
ttccggaggg ccaagcacta taaatcccct agtgagctgc tggagatctg cgagctcagc  
960  
caggagaaga tgagctctgt gtttgaggac agtaacgtgt acatgttgca catgatgtac  
1020  
caggccatgg gtgtctgctt gtacatgcag gactgggaag gagccctgca atatggacag  
1080  
aaaatcatta agccctacag taagcactat cctttgtact ccctcaacgt ggctccatg  
1140  
tggttgaagc tagggagact ctacatgggc ctggaacaca aagccgcagg ggagaaagcc  
1200  
ctgaagaagg ccattgcaat catggaagta gctcacggca aagatcatcc atatatttct  
1260  
gagatcaaac aggaaattga aagccactga aactatgcag catttcagtt ttcatttaaa  
1320  
cacttagttc agaaacctta aaggatttga atatttcaaa ttgcacacgt cactccagca  
1380  
tctctgtaaa ataattggaa tgaaaatact tcttgcaactt aaacactgca catgccgtac  
1440  
tttgaggtta gtctgaatct tgaactttaa taccaaatta attttgaatg cttttgtttc  
1500  
ctaagagata atggcatggt ttcatatgtt atactttgga cagacagagt tttaaaaatg  
1560  
gaattatttt ttctttcatg cctcttgtaa tgttctgaac aaacttgaat gatgaaagta  
1620  
ttaaagagat atcagtattt gaggtttgta ttttcttctg tctctgggga ggatttctca  
1680  
gtggtggtgg gagccagtc ttggagtga agtgacacct gctgtccata attcagcaag  
1740  
ctcaagtctt ctccatggga ctggggtcgg gcagcctctt tattctgcag ttgctcttgt  
1800  
ggggctgtgc ctgtggagga agaaaatggg aagaaagaga aaaaggtaca caaaggaaag  
1860  
aaaactatca tctatctgtg gtggaggaac agtccagtga cccaagtgcc ctccagcagg  
1920  
cgaggttttg aatctgttct ctggtgcctg gtattccttc agtgtgtaaa ggtgcttagt  
1980  
gcgtgctttg ctttcttgge ttttctgtcc ccatctgtct gaaagcagac ttgccatctc  
2040  
tcattctgtt gattgttctg tgcagtactc tcctttttgg aaaaactoca gggatgtctt  
2100  
gggaaggaaa aaaatttttt tccttaccaa ccaacgctgt gttgttgagt aaacactgat  
2160  
ctctaccac acagacaaca ggaatccagc tttctgcagc cccacagcct agacagcagc  
2220  
aacctgggga gttgtttgtt agcaaccatt gcacagaagg acgcagcaca cgttcctgag  
2280  
tgcaggggtg ttactcttag aaaagcgtct tgtagtcgaa agagaggaac ttccccactg  
2340

gttaataagt aaagcctggt gaaatttaca tgtcaattac ctttcatagt catgggtccga  
 2400  
 aaacagctag aacagctgta aatctggtac attttccttc cctcctcatc tacacgcacc  
 2460  
 cacatcttca cacacactca tgccctctt tcacacgcag ttgctgcac acagtgggat  
 2520  
 ttagcagata gaatgcattc tcttgtcttg tgtagtccaa taagacattt actgaacacc  
 2580  
 tgggtactatc tatgctaaat gctctgaata gctctctagg tgcaaagaga agagtaaggc  
 2640  
 atgggtcccag atcagtggaa cttagggtttt aagaatgttc atttactata cattctgtga  
 2700  
 cgaagcctaa aataaactta gcctaccatc tctatagggt ttataaaatt tgcaaaagta  
 2760  
 atcctttctc agtaaatcca agtaatggaa atgtatatga aaaaagtaaa cttcttttgt  
 2820  
 cttcaccagt cccactgcgt ggagctaact gccataaaca gtttgcttta tatgggtccca  
 2880  
 gggtttttcca ttcttggatg atgatgtagc tatataaata gatttagaag aacaaagaca  
 2940  
 ggatgggtact gacataggat ttgtaacgt gcttctccaa acgaacaaaa tggatctctt  
 3000  
 tgcatttcag cacttacaga ttgcctcat tctatttaga ggcagaatat tgcattggat  
 3060  
 gcatgtcatc atggactcgg tacttctatt tatggacagg aggttttttt tcccagtttg  
 3120  
 ctgctattac aaacaatgcc acaatgaatg atctgaaaca taaaactttg cgttgtgtgg  
 3180  
 tagcattttg ggggaatagat tcctggaagt gcaatttcaa gatccaatag tgggaatatt  
 3240  
 tttaaaattt gaataaatat agccacattt ctttttgtaa aaaaaaaaaa aaaactgcac  
 3300  
 cagatacaaa taagatagat ataatagtat ttgctttcct ctccctcata acgttgtatt  
 3360  
 atcattaaaa tgtttttggc  
 3380

&lt;210&gt; 5048

&lt;211&gt; 429

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5048

Gly	Ser	Arg	Ser	Ser	Glu	Arg	Phe	Cys	Ser	Pro	Gly	Lys	Gly	Arg	Xaa
1				5					10				15		
Leu	Arg	Ala	Leu	Gln	Pro	Phe	Gln	Val	Gly	Asp	Leu	Leu	Phe	Ser	Cys
		20					25				30				
Pro	Ala	Tyr	Ala	Tyr	Val	Leu	Thr	Val	Asn	Glu	Arg	Gly	Asn	His	Cys
	35				40				45						
Glu	Tyr	Cys	Phe	Thr	Arg	Lys	Glu	Gly	Leu	Ser	Lys	Cys	Gly	Arg	Cys
	50				55				60						
Lys	Gln	Ala	Phe	Tyr	Cys	Asn	Val	Glu	Cys	Gln	Lys	Glu	Asp	Trp	Pro
65				70				75					80		
Met	His	Lys	Leu	Glu	Cys	Ser	Pro	Met	Val	Val	Phe	Gly	Glu	Asn	Trp



cgcatcttta aaagacatgg agctgttcag ttgtgtactc cactactgct tccccgaaac  
180  
agacaaatat atgagcacia cgaatctgcc ctattcatgg accacagcgg gatgctgggtg  
240  
atgcttcctt ttgacctgcg gatccctttt gcaagatatg tggcaagaaa taatatattg  
300  
aatttaaaac gatactgcat agaactgtgtg ttcaggccgc gcaagttaga tcgatttcat  
360  
cccaaagAAC ttctggagtg tgcatttgat attgtcactt ctaccaccaa cagctttctg  
420  
cccactgctg aaattatcta cactatctat gaaatcatcc aagagtttcc agcacttcag  
480  
gaaagaaatt acagtattta tttgaacat accatgttat tgaaagcaat actcttacac  
540  
tgtgggatcc cagaagataa actcagtcaa gtctacatta ttctgtatga tgctgtgaca  
600  
gagaagctga cgaggagaga agtggaaact aaattttgta atctgtctgt gtcttcta  
660  
agtntctgtg cgactctaca angttattg aacagaagg agattnttgc aagatcttat  
720  
gccaacaatn naaattcatt aataaaacag aaaacaggta ttgcacagtt ggtgaagtat  
780  
ggcttaaaag acctagagga ggttgttga ctgttgaaga aactcggcat caagttacag  
840  
gtcttgatca atttgggctt ggtttacaag gtgcagcagc acaatggaat catcttccag  
900  
tttgtggctt tcatcaaacg aaggcaaagg gctgtacctg aaatcctcgc agctggaggc  
960  
agatatgacc tgctgattcc ccagttaga gggccacaag ctctggggcc agttcccact  
1020  
gccattgggg tcagcatagc tatagacaag atatctgctg ctgtcctcaa catggaggaa  
1080  
tctgttaca taagctcttg tgacctctg gttgtaagt ttggtcagat gtctatgtcc  
1140  
agggccatca acctaaccca gaaactctg acagcaggca tcacagcaga aatcatgtac  
1200  
gactggtcac agtcccaaga ggaattaca gagtactgca gacatcatga aatcacctat  
1260  
gtggcccttg tctcgataa agaaggaagc catgtcaagg ttaagtcttt cgagaaggaa  
1320  
aggcagacag agaagcgtgt gctggagact gaacttgtg accatgtact gcagaaactg  
1380  
aggactaaag tcaatgatga aaggaatggc agagaagctt ccgataatct tgcatgcaa  
1440  
aatctgaagg ggtcattttc taatgcttca gggttgtttg aaatccatgg agcaacagt  
1500  
gttcccattg tgagtgtgct agccccggag aagctgtcag ccagcactag gaggcgctat  
1560  
gaaactcagg taaaaactcg acttcagacc tcccttgcca acttacatca gaaaagcagt  
1620  
gaaattgaaa ttctggctgt ggatctaccc aaagaaacaa tattacagtt tttatcatta  
1680  
gagtgggatg ctgatgaaca ggcatttaac acaactgtga agcagctgct gtcacgcctg  
1740



ccaaagcaaa gatacctcaa attagtctgt gatgaaattt ataacatcaa agtagaaaaa  
 1800  
 aagggtgctg tgctatttct gtacagctat agagatgact actacagaat cttattttta  
 1860  
 ccctaaagaa ctgtcggttaa cctcattcaa acagacagag gcttatactg gaataatgga  
 1920  
 atgttgtaga ttcatacataa tttaaaatta aattctaaga agaggctggg tgcagtggct  
 1980  
 cacaccttta atcccagcac tttgggaagc caaggcagga agactgcttg aaaccaggag  
 2040  
 tttgagacca gcctgagcaa caaagcaaga ccccatctct ataaaaacta aaaaaattag  
 2100  
 ttgggcatgg tggcacatgc ctgtagtccc agctactcca gaggctgaga tggatcatct  
 2160  
 gagcctcagg aggttgaggc tgcagtgagc tgtgactgcg ccactgcact ccagtctggg  
 2220  
 acaacagagc aagacctgt cttaaaaaaaa aaaagaaaaa aaaaattttt ttctaagaag  
 2280  
 ctgtcctaca aagttgagct ttgttagttt ttcattgtga atatattata aatttatctt  
 2340  
 ttgggatata ataatgctt tcatataaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2400  
 aaaaaaaaaa aaaaaaaaaa aa  
 2422

<210> 5050

<211> 619

<212> PRT

<213> Homo sapiens

<400> 5050

Xaa	Ile	Phe	Ser	Gln	Arg	Ile	Ser	Pro	Ser	Ile	Asp	Tyr	Thr	Tyr	Asp
1				5				10						15	
Ser	Asp	Ile	Leu	Lys	Gly	Asn	Phe	Ser	Ile	Arg	Thr	Ala	Lys	Met	Gln
			20					25					30		
Gln	His	Val	Cys	Glu	Thr	Ile	Ile	Arg	Ile	Phe	Lys	Arg	His	Gly	Ala
		35				40					45				
Val	Gln	Leu	Cys	Thr	Pro	Leu	Leu	Pro	Arg	Asn	Arg	Gln	Ile	Tyr	
	50					55				60					
Glu	His	Asn	Glu	Ser	Ala	Leu	Phe	Met	Asp	His	Ser	Gly	Met	Leu	Val
65					70				75					80	
Met	Leu	Pro	Phe	Asp	Leu	Arg	Ile	Pro	Phe	Ala	Arg	Tyr	Val	Ala	Arg
				85					90					95	
Asn	Asn	Ile	Leu	Asn	Leu	Lys	Arg	Tyr	Cys	Ile	Glu	Arg	Val	Phe	Arg
			100					105					110		
Pro	Arg	Lys	Leu	Asp	Arg	Phe	His	Pro	Lys	Glu	Leu	Leu	Glu	Cys	Ala
		115				120						125			
Phe	Asp	Ile	Val	Thr	Ser	Thr	Thr	Asn	Ser	Phe	Leu	Pro	Thr	Ala	Glu
	130					135					140				
Ile	Ile	Tyr	Thr	Ile	Tyr	Glu	Ile	Ile	Gln	Glu	Phe	Pro	Ala	Leu	Gln
145				150					155					160	
Glu	Arg	Asn	Tyr	Ser	Ile	Tyr	Leu	Asn	His	Thr	Met	Leu	Leu	Lys	Ala
				165				170						175	
Ile	Leu	Leu	His	Cys	Gly	Ile	Pro	Glu	Asp	Lys	Leu	Ser	Gln	Val	Tyr

			180					185					190				
Ile	Ile	Leu	Tyr	Asp	Ala	Val	Thr	Glu	Lys	Leu	Thr	Arg	Arg	Glu	Val		
		195					200					205					
Glu	Ala	Lys	Phe	Cys	Asn	Leu	Ser	Val	Ser	Ser	Asn	Ser	Xaa	Val	Ser		
	210					215					220						
Thr	Leu	Gln	Xaa	Leu	Leu	Asn	Arg	Arg	Glu	Ile	Xaa	Ala	Arg	Ser	Tyr		
225					230				235						240		
Ala	Asn	Asn	Xaa	Asn	Ser	Leu	Ile	Lys	Gln	Lys	Thr	Gly	Ile	Ala	Gln		
				245					250						255		
Leu	Val	Lys	Tyr	Gly	Leu	Lys	Asp	Leu	Glu	Glu	Val	Val	Gly	Leu	Leu		
			260					265						270			
Lys	Lys	Leu	Gly	Ile	Lys	Leu	Gln	Val	Leu	Ile	Asn	Leu	Gly	Leu	Val		
		275					280					285					
Tyr	Lys	Val	Gln	Gln	His	Asn	Gly	Ile	Ile	Phe	Gln	Phe	Val	Ala	Phe		
	290					295					300						
Ile	Lys	Arg	Arg	Gln	Arg	Ala	Val	Pro	Glu	Ile	Leu	Ala	Ala	Gly	Gly		
305					310					315					320		
Arg	Tyr	Asp	Leu	Leu	Ile	Pro	Gln	Phe	Arg	Gly	Pro	Gln	Ala	Leu	Gly		
				325					330						335		
Pro	Val	Pro	Thr	Ala	Ile	Gly	Val	Ser	Ile	Ala	Ile	Asp	Lys	Ile	Ser		
			340					345					350				
Ala	Ala	Val	Leu	Asn	Met	Glu	Glu	Ser	Val	Thr	Ile	Ser	Ser	Cys	Asp		
		355					360					365					
Leu	Leu	Val	Val	Ser	Val	Gly	Gln	Met	Ser	Met	Ser	Arg	Ala	Ile	Asn		
	370					375						380					
Leu	Thr	Gln	Lys	Leu	Trp	Thr	Ala	Gly	Ile	Thr	Ala	Glu	Ile	Met	Tyr		
385					390					395					400		
Asp	Trp	Ser	Gln	Ser	Gln	Glu	Glu	Leu	Gln	Glu	Tyr	Cys	Arg	His	His		
				405					410					415			
Glu	Ile	Thr	Tyr	Val	Ala	Leu	Val	Ser	Asp	Lys	Glu	Gly	Ser	His	Val		
			420					425					430				
Lys	Val	Lys	Ser	Phe	Glu	Lys	Glu	Arg	Gln	Thr	Glu	Lys	Arg	Val	Leu		
		435					440					445					
Glu	Thr	Glu	Leu	Val	Asp	His	Val	Leu	Gln	Lys	Leu	Arg	Thr	Lys	Val		
	450					455					460						
Thr	Asp	Glu	Arg	Asn	Gly	Arg	Glu	Ala	Ser	Asp	Asn	Leu	Ala	Val	Gln		
465					470					475					480		
Asn	Leu	Lys	Gly	Ser	Phe	Ser	Asn	Ala	Ser	Gly	Leu	Phe	Glu	Ile	His		
				485					490					495			
Gly	Ala	Thr	Val	Val	Pro	Ile	Val	Ser	Val	Leu	Ala	Pro	Glu	Lys	Leu		
			500		</												

610

615

&lt;210&gt; 5051

&lt;211&gt; 4125

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5051

tttttttttc tattattctt ttactatctt ttctattacc attttttcta gtaccatttt  
60  
ttctattatt cttttactat aattgtatat aatatggcag ctgcttgcca catgtactat  
120  
gtggagagat gtaccacct gcacagctt ttacctaca gaaggaaatc agcggtccat  
180  
tatattttat tggtatcaac agtttaggaa tacatagctt tgcttttgcc tttttctttc  
240  
cttccccttg tttcccctcg cctcagagaa aagaaggaaa aaaaaattca tctttcctac  
300  
ccccctcttt ttggatgata ggacttgaag acaatctgaa ataccacata aactcacttc  
360  
cagatgtttt ttgtttcata tgcaattgaa ttgggctcag actgtgtttt taagctgtat  
420  
ggtaaaaaata tcaactgtctt ctagggcctt attggggggc agggagagac gtgacacttt  
480  
gtcagaaggg attgagtctg ctaacttaaa ctttccttga ttcaggaata caaagtctcc  
540  
agctgtgaac agagactcat cagtgaata gactacaggg tagaaaggtc tcctgtggat  
600  
gaatcaggtg atgaattcac gtatggagat gtgcctgtgg aaaacggaat ggcaccattc  
660  
tttgagatga agctgaaaca ttacaagatc tttaggggaa tgccagtaac tttcacatgt  
720  
agagtggctg gaaatccaaa gccaaagatc tattggttta aagatgggaa gcagatctct  
780  
ccaaagagtg atcactacac cattcaaaga gatctcgatg ggacctgctc cctccatacc  
840  
acagcctcca ccctagatga tgatgggaat tatacaatta tggctgcaaa ccctcagggc  
900  
cgcatcagtt gtactggacg gctaattgga caggctgtca accaaagagg tcgaagtccc  
960  
cggctctcct caggccatcc tcatgtcaga aggcctcggt ctagatcaag ggacagtgga  
1020  
gacgaaaatg aaccaattca ggagcgattc ttcagacctc acttcttgca ggctcctgga  
1080  
gatctgactg ttcaagaagg aaaactctgc agaattggact gcaaagtcag tgggttacca  
1140  
accccgatc taagctggca actagatgga aagcccgtac gccctgacag tgctcacaag  
1200  
atgctgggtg gtgagaacgg ggtgcactct ctgatcatag agccagtcac gtcacgtgat  
1260  
gccggcatct acacatgtat agctaccaac cgagcaggac agaactcatt cagcctggag  
1320  
cttggtggtg ctgctaaaga agcacacaaa cccctgtgtt ttattgagaa gctccaaaac  
1380

acaggagttg ctgatgggta cccagtgcgg ctggaatgtc gtgtattggg agtgccacca  
1440  
cctcagatat tttggaagaa agaaaatgaa tcactcactc acagcactga ccgagtgagc  
1500  
atgcaccagg acaaccacgg ctacatctgc ctgctcattc agggagccac aaaagaagat  
1560  
gctgggtggg atactgtgtc agccaagaat gaagcaggga ttgtgtcctg tactgccagg  
1620  
ctggacgttt acaccacgtg gcatcagcag tcacagagca ccaagccaaa aaaagtacgg  
1680  
ccctcagcca gtcgctatgc agcactttcg gaccagggac tagacatcaa agcagcgttc  
1740  
caacctgagg ccaaccctac tcacctgaca ctgaatactg ccttggtaga aagtgaggac  
1800  
ctgtaatcca gcattcttgt taaagctgaa acactgaaac agccattgcc ttgaccaaca  
1860  
tattcctttg tcacattatg taaaaggcag aaacatacct ttgactataa gaaattaaaa  
1920  
aaaaacacca aaataatatt tttcttactt gatataccaa acttagttta agtagataat  
1980  
gctaatacaa atatacacat tgcacagaaa atacacattt actgtccaat ttaaaacttt  
2040  
ggaattgctg tgattaaagt gatcaaaatg ccaaataact aaaggaaatc aattgttcac  
2100  
aggtaactac aatttgtatt atctacaagt gcctttaaac acaagatata ggtgctgtgt  
2160  
agcctgatag tgtgaaatgt ttaatgaggg agttgtacca caaacagtac tacaatgatt  
2220  
ctgaagcaca gtgtattcag acagatacag tgaaccaagt gcaatatgta aggatgaaag  
2280  
aagaagagat gacaaagaaa tccaagtaaa tgccttgtct ttgcaaatgt ttttatatta  
2340  
aatcataagg aaggaactac ttgccttaaa tgtaaatatc aaaagagttt tctaacaagg  
2400  
ttaatacctt agttcttaac attttttttc tttatgtgta gtgttttcat gctaccttg  
2460  
taggaaactt atttacaac catattaaaa ggctaattta aatataaata atataaagt  
2520  
ctctgaataa agcagaaata tattacagtt cattccacag aaagcatcca aaccaccaa  
2580  
atgaccaagg catatatagt atttggagga atcaggggtt tggaaggagt agggaggaga  
2640  
atgaaggaaa atgcaaccag catgattata gtgtgttcat ttagataaaa gtagaaggca  
2700  
caggagaggt agcaaaggcc aggcctttct ttgggtttct tcaaacatag gtgaaaaaa  
2760  
cactgccatt cacaagtcaa ggaaccacgg gccagctgga agtgtggagc acacatgctg  
2820  
tgagacacac atgctgtgga gattgcagtg tgtctgaggt ttgtgtagta gtggaagatt  
2880  
ttaggtatgt agagcaagtt gaaaatggat tgagactgca tgggtggcata aatgagaaat  
2940  
tgctgtagc atctagtcta cttgaaggaa gtggagacat aaggagagac aaaaacagg  
3000

ttgtgccata aagtattttt tcaaagacac caagatgtgg taaatgaaaa ttattagttc  
 3060  
 acttccctgc tgccatgaaa ctttgcctta agaagggtgct ggattccaag gtttgtaaag  
 3120  
 gcatctcggt aaagactgct ttttgaatgc atatgatttt gcatcagcta gactgagttg  
 3180  
 attctgacca gacttgatgg ttttaagtcg gaaccgataa attttaaaaa ggagaaaaaa  
 3240  
 taatttgacc tagtagtata aaacatgagg ctttaatggg actttgctat gaaaagaaaa  
 3300  
 cactgtattc cttatgcaaa acacatgtat ctttcattat ttataagtgg cctctcttag  
 3360  
 ctcagttact caattcatac gtagtatttt ttaaaataat tttatatctg tgtaccaccc  
 3420  
 catatatttc atattactgt ttcacatgta cagctttcta cttctttgta agaacaccaa  
 3480  
 ccaaccaagg ttttaagtgt taataggctt gagcaccggg tggcagatgt tctatgcagt  
 3540  
 gtggttcaag tttctttgac cgcacttata tgcattgcta atatggaatt taagatacca  
 3600  
 tacacagtct ctcattggacc tatctctatt gtagaattat gactttcgtt gtcgaatgac  
 3660  
 cactgctgga tgtacctttt tttctgagct ctggtttgcc tttcttgact gtggccatca  
 3720  
 ccatgtcacc cacaccagca gcgggaagtc tgttcagccg tcccttgatc cccttcacgg  
 3780  
 agatgatata cagggtttttg gctcctgtgt tgtcagcaca attgattaca gctcctaccg  
 3840  
 gaagacccaa ggaaatccgg aatttcgcac cagaggaccc accacgtcct cgcttcgaca  
 3900  
 tcttgaacgc cggaaaaaag aaaaaaggta catccagcag tggtcattcg acaacgaaag  
 3960  
 tcataccgta gaaaagatgg cgtgtttctt tattttgaag ataatgcagg agtcatagt  
 4020  
 aacaataaag gcgagatgaa aggttctgcc attacaggac cagtagcaaa ggagtgtgac  
 4080  
 gacttgtggc cccggattgc atccaatgct ggcagcattg catgc  
 4125

<210> 5052

<211> 433

<212> PRT

<213> Homo sapiens

<400> 5052

Leu	Lys	Leu	Ser	Leu	Ile	Gln	Glu	Tyr	Lys	Val	Ser	Ser	Cys	Glu	Gln
1				5					10					15	
Arg	Leu	Ile	Ser	Glu	Ile	Glu	Tyr	Arg	Leu	Glu	Arg	Ser	Pro	Val	Asp
			20					25					30		
Glu	Ser	Gly	Asp	Glu	Phe	Thr	Tyr	Gly	Asp	Val	Pro	Val	Glu	Asn	Gly
		35					40					45			
Met	Ala	Pro	Phe	Phe	Glu	Met	Lys	Leu	Lys	His	Tyr	Lys	Ile	Phe	Glu
	50					55					60				
Gly	Met	Pro	Val	Thr	Phe	Thr	Cys	Arg	Val	Ala	Gly	Asn	Pro	Lys	Pro

65					70					75					80
Lys	Ile	Tyr	Trp	Phe	Lys	Asp	Gly	Lys	Gln	Ile	Ser	Pro	Lys	Ser	Asp
				85					90					95	
His	Tyr	Thr	Ile	Gln	Arg	Asp	Leu	Asp	Gly	Thr	Cys	Ser	Leu	His	Thr
			100					105					110		
Thr	Ala	Ser	Thr	Leu	Asp	Asp	Asp	Gly	Asn	Tyr	Thr	Ile	Met	Ala	Ala
		115					120						125		
Asn	Pro	Gln	Gly	Arg	Ile	Ser	Cys	Thr	Gly	Arg	Leu	Met	Val	Gln	Ala
	130						135				140				
Val	Asn	Gln	Arg	Gly	Arg	Ser	Pro	Arg	Ser	Pro	Ser	Gly	His	Pro	His
145					150					155					160
Val	Arg	Arg	Pro	Arg	Ser	Arg	Ser	Arg	Asp	Ser	Gly	Asp	Glu	Asn	Glu
				165					170					175	
Pro	Ile	Gln	Glu	Arg	Phe	Phe	Arg	Pro	His	Phe	Leu	Gln	Ala	Pro	Gly
		180						185					190		
Asp	Leu	Thr	Val	Gln	Glu	Gly	Lys	Leu	Cys	Arg	Met	Asp	Cys	Lys	Val
	195						200					205			
Ser	Gly	Leu	Pro	Thr	Pro	Asp	Leu	Ser	Trp	Gln	Leu	Asp	Gly	Lys	Pro
	210					215					220				
Val	Arg	Pro	Asp	Ser	Ala	His	Lys	Met	Leu	Val	Arg	Glu	Asn	Gly	Val
225					230					235					240
His	Ser	Leu	Ile	Ile	Glu	Pro	Val	Thr	Ser	Arg	Asp	Ala	Gly	Ile	Tyr
			245						250					255	
Thr	Cys	Ile	Ala	Thr	Asn	Arg	Ala	Gly	Gln	Asn	Ser	Phe	Ser	Leu	Glu
		260						265					270		
Leu	Val	Val	Ala	Ala	Lys	Glu	Ala	His	Lys	Pro	Pro	Val	Phe	Ile	Glu
	275						280					285			
Lys	Leu	Gln	Asn	Thr	Gly	Val	Ala	Asp	Gly	Tyr	Pro	Val	Arg	Leu	Glu
	290					295					300				
Cys	Arg	Val	Leu	Gly	Val	Pro	Pro	Pro	Gln	Ile	Phe	Trp	Lys	Lys	Glu
305					310					315					320
Asn	Glu	Ser	Leu	Thr	His	Ser	Thr	Asp	Arg	Val	Ser	Met	His	Gln	Asp
				325					330					335	
Asn	His	Gly	Tyr	Ile	Cys	Leu	Leu	Ile	Gln	Gly	Ala	Thr	Lys	Glu	Asp
	340						345						350		
Ala	Gly	Trp	Tyr	Thr	Val	Ser	Ala	Lys	Asn	Glu	Ala	Gly	Ile	Val	Ser
	355						360					365			
Cys	Thr	Ala	Arg	Leu	Asp	Val	Tyr	Thr	Gln	Trp	His	Gln	Gln	Ser	Gln
	370					375					380				
Ser	Thr	Lys	Pro	Lys	Lys	Val	Arg	Pro	Ser	Ala	Ser	Arg	Tyr	Ala	Ala
385					390					395					400
Leu	Ser	Asp	Gln	Gly	Leu	Asp	Ile	Lys	Ala	Ala	Phe	Gln	Pro	Glu	Ala
			405					410					415		
Asn	Pro	Ser	His	Leu	Thr	Leu	Asn	Thr	Ala	Leu	Val	Glu	Ser	Glu	Asp
			420					425					430		
Leu															

&lt;210&gt; 5053

&lt;211&gt; 781

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5053

ttcaactgca caaaggctgt attgcagggg aggtgggagg gggcaggcag aacgctcctc  
 60  
 ctcttgggtc ttggggcccc ggagcagagc ccagggatgg gctgagttag gggcttggca  
 120  
 ctctgtggaa gctgcagatg agagaccagc aatgcatcag ctgcacctgc agtagagcgc  
 180  
 ggagatagcg ttggaccatg tctaagatg tccccgctgc gcccgtgct gctggccctg  
 240  
 gcccttgctt ccgtgccttg cggccagggc gcctgccccg cctccgccga cctcaagcac  
 300  
 tcggacggga cgcgcacttg cgcnaagctc tatgacaaga gcgacccta ctatgagaac  
 360  
 tgctgctggg gcgcccagct gtcgctggag tcgggcgcag acctgcccta cctgccctcc  
 420  
 aactgggcca acaccgctc ctcaactgtg gtggccccgc gctgcgagct caccgtgtgg  
 480  
 tcccggcaag gcaaggcggg caagacgcac aagttctctg ccggcaccta cccgcgcctg  
 540  
 gaggagtacc gccggggcat cttaggagac tggccaacg ctatctccgc gctctactgc  
 600  
 aggtgcagct gatgcattgc tggctctctc tctgcagctt ccacagagtg ccaagccctt  
 660  
 cactcagccc atccctgggc tctgctccgg gggcccaaga cccaggagga ggagcgttct  
 720  
 gcctgcccc tcccacctcc cctgcaatac agcctttgtg cagttgtaaa aaaaaaaaaa  
 780  
 a  
 781

&lt;210&gt; 5054

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5054

Glu	Thr	Ser	Asn	Ala	Ser	Ala	Ala	Pro	Ala	Val	Glu	Arg	Gly	Asp	Ser
1			5					10					15		
Val	Gly	Pro	Cys	Pro	Lys	Met	Ser	Pro	Leu	Arg	Pro	Leu	Leu	Leu	Ala
		20					25				30				
Leu	Ala	Leu	Ala	Ser	Val	Pro	Cys	Ala	Gln	Gly	Ala	Cys	Pro	Ala	Ser
	35					40					45				
Ala	Asp	Leu	Lys	His	Ser	Asp	Gly	Thr	Arg	Thr	Cys	Ala	Lys	Leu	Tyr
	50				55					60					
Asp	Lys	Ser	Asp	Pro	Tyr	Tyr	Glu	Asn	Cys	Cys	Gly	Gly	Ala	Glu	Leu
65			70				75				80				
Ser	Leu	Glu	Ser	Gly	Ala	Asp	Leu	Pro	Tyr	Leu	Pro	Ser	Asn	Trp	Ala
		85					90				95				
Asn	Thr	Ala	Ser	Ser	Leu	Val	Val	Ala	Pro	Arg	Cys	Glu	Leu	Thr	Val
	100						105				110				
Trp	Ser	Arg	Gln	Gly	Lys	Ala	Gly	Lys	Thr	His	Lys	Phe	Ser	Ala	Gly
	115					120					125				
Thr	Tyr	Pro	Arg	Leu	Glu	Glu	Tyr	Arg	Arg	Gly	Ile	Leu	Gly	Asp	Trp
	130				135					140					
Ser	Asn	Ala	Ile	Ser	Ala	Leu	Tyr	Cys	Arg	Cys	Ser				

145

150

155

&lt;210&gt; 5055

&lt;211&gt; 2520

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5055

naggagcaag ccatgaaatt ggacacttgt tccaaaagcc aacctgtatg aacaatttct  
60  
gtaaaagcca aaaaattatg ctgaactttg gttaaaactt gaataaacta tttaatgatg  
120  
ctactgctta aattctaaat aagtactttt gttttttctc tctaatectc tcccatcccc  
180  
tcctctcttt ctcttaaagg catggagagt agaaaactga tttctgctac agacattcag  
240  
tactctggca gtctgctgaa ctcttgaat gagcaacgtg gccatggact cttctgtgat  
300  
gttaccgtta ttgtggaaga ccgaaaattc cgggctcaca agaattattct ttcagcttct  
360  
agtacctact tccatcagct cttctctgtt gctgggcaag ttgttgaact gagctttata  
420  
agagcagaga tctttgcaga aattctcaat tatatctata gttctaaaat tgttcgtggt  
480  
agatcagatt tgcttgatga gttaattaaa tcagggcagt tattaggagt gaaatttata  
540  
gcagagcttg gtgtcccatt gtcacagggt aaaagcatct caggtaacagc gcaggatggt  
600  
aatactgagc ctttacctcc tgattctggt gacaagaacc ttgtaataca gaaatcaaaa  
660  
gatgaagccc aagataatgg ggctactata atgcctatta taacagagtc tttttcatta  
720  
tctgccgaag attatgaaat gaaaaagatc attgttaccg attctgatga tgatgatgat  
780  
gatgtcattt tttgctccga gattctgccc acaaaggaga ctttgccgag taataacaca  
840  
gtggcacagg tccaatctaa ccagggcctt gttgctattt cagatgttgc acctagtgtc  
900  
agcaataact cgcccccttt aacaaatct acacctactc agaaacttcc tactcctgtg  
960  
aatcaggcaa ctttgagcca aacacaagga agtgaaaaat tgttggtatc ttcagctcca  
1020  
acacatctga ctcccaatat tattttgtta aatcagacac cactttctac accaccaa  
1080  
gtcagttctt cacttccaaa tcatatgccc tcttcaatca atttacttgt gcagaatcag  
1140  
cagacaccaa acagtgtctat tttaacagga aacaaggcca atgaagagga ggaggaggaa  
1200  
ataatagatg atgatgatga cactattagc tccagtccctg actcggccgt cagtaataca  
1260  
tctttggtcc cacaggctga tacctcccaa aataccagtt ttgatggatc attaatacag  
1320  
aagatgcaga ttctacact tcttcaagaa ccactttcca attccttaaa aatttcagat  
1380



ataattacta gaaatactaa tgatccaggc gtaggatcaa aacatctaataat ggaggggtcag  
 1440  
 aagatcatta ctttagatac agctactgaa attgaaggct tatcgactgg ttgcaagggt  
 1500  
 tatgcaaata tcgggtgaaga tacttatgat atagtgatcc ctgtcaaaga tgaccctgat  
 1560  
 gaaggggagg ccagacttga gaatgaaata ccaaaaacgt ctggcagcga gatggcaaac  
 1620  
 aaacgtatga aagtaaaaca tgatgatcac tatgagttaa tagtagatgg aaggggtctat  
 1680  
 tatatctgta ttgtatgcaa aaggatcatat gtctgtctga caagcttgcg gagacatttt  
 1740  
 aacattcatt cttgggagaa gaagtatccg tgccgttact gtgagaagggt atttcctctt  
 1800  
 gcagaatata gcacaaagca tgaaattcat cacacagggg agcgaaggta tcagtgtttg  
 1860  
 gcctgtggca aatctttcat caactatcag tttatgtctt cacatataaa gtcagttcat  
 1920  
 agtcaagatc cttctgggga ctcaaagctt tatcgtttac atccatgcag gtctttacaa  
 1980  
 atcagacaat atgcatatca ttccgataga tcaagcacta ttcttgaat gaaggatgat  
 2040  
 ggtattgggt ataagggtga cactggaaaa gaacctccag tagggaccac tacatctact  
 2100  
 cagaacaagc caatgacctg ggaagatatt tttattcagc aggaaaatga ttcaattttt  
 2160  
 aaacaaaatg taacagatgg cagtactgag tttgaattta taataccaga gtcttactaa  
 2220  
 actcctttga aatactagaa agttttgttt tggatgatgg ggcaggggtt tcagaagatc  
 2280  
 tgtaaaacaa attaagggtgc gaacaagtta atttgatctg ccacattatc tgaaggaagt  
 2340  
 gtagtgggat ttttgttgat aatttttaga agcaaatttt cctgaaagtt ttgagtagag  
 2400  
 gtgagacccc ctccccaagt atctgtttat atagttagtt ttcagctcat ttaaaagagg  
 2460  
 caaaaattaa aagcttggag agatagtttc ctgaatagaa tttgaagcag tctgaatggt  
 2520

&lt;210&gt; 5056

&lt;211&gt; 672

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5056

Met	Glu	Ser	Arg	Lys	Leu	Ile	Ser	Ala	Thr	Asp	Ile	Gln	Tyr	Ser	Gly
1				5					10					15	
Ser	Leu	Leu	Asn	Ser	Leu	Asn	Glu	Gln	Arg	Gly	His	Gly	Leu	Phe	Cys
			20					25					30		
Asp	Val	Thr	Val	Ile	Val	Glu	Asp	Arg	Lys	Phe	Arg	Ala	His	Lys	Asn
		35					40				45				
Ile	Leu	Ser	Ala	Ser	Ser	Thr	Tyr	Phe	His	Gln	Leu	Phe	Ser	Val	Ala
	50					55				60					
Gly	Gln	Val	Val	Glu	Leu	Ser	Phe	Ile	Arg	Ala	Glu	Ile	Phe	Ala	Glu

65				70				75				80			
Ile	Leu	Asn	Tyr	Ile	Tyr	Ser	Ser	Lys	Ile	Val	Arg	Val	Arg	Ser	Asp
				85				90				95			
Leu	Leu	Asp	Glu	Leu	Ile	Lys	Ser	Gly	Gln	Leu	Leu	Gly	Val	Lys	Phe
			100					105				110			
Ile	Ala	Glu	Leu	Gly	Val	Pro	Leu	Ser	Gln	Val	Lys	Ser	Ile	Ser	Gly
			115					120				125			
Thr	Ala	Gln	Asp	Gly	Asn	Thr	Glu	Pro	Leu	Pro	Pro	Asp	Ser	Gly	Asp
			130					135				140			
Lys	Asn	Leu	Val	Ile	Gln	Lys	Ser	Lys	Asp	Glu	Ala	Gln	Asp	Asn	Gly
			145					150				155			160
Ala	Thr	Ile	Met	Pro	Ile	Ile	Thr	Glu	Ser	Phe	Ser	Leu	Ser	Ala	Glu
			165					170				175			
Asp	Tyr	Glu	Met	Lys	Lys	Ile	Ile	Val	Thr	Asp	Ser	Asp	Asp	Asp	Asp
			180					185				190			
Asp	Asp	Val	Ile	Phe	Cys	Ser	Glu	Ile	Leu	Pro	Thr	Lys	Glu	Thr	Leu
			195					200				205			
Pro	Ser	Asn	Asn	Thr	Val	Ala	Gln	Val	Gln	Ser	Asn	Pro	Gly	Pro	Val
			210					215				220			
Ala	Ile	Ser	Asp	Val	Ala	Pro	Ser	Ala	Ser	Asn	Asn	Ser	Pro	Pro	Leu
			225					230				235			240
Thr	Asn	Ile	Thr	Pro	Thr	Gln	Lys	Leu	Pro	Thr	Pro	Val	Asn	Gln	Ala
			245					250				255			
Thr	Leu	Ser	Gln	Thr	Gln	Gly	Ser	Glu	Lys	Leu	Leu	Val	Ser	Ser	Ala
			260					265				270			
Pro	Thr	His	Leu	Thr	Pro	Asn	Ile	Leu	Leu	Asn	Gln	Thr	Pro	Leu	
			275					280				285			
Ser	Thr	Pro	Pro	Asn	Val	Ser	Ser	Ser	Leu	Pro	Asn	His	Met	Pro	Ser
			290					295				300			
Ser	Ile	Asn	Leu	Leu	Val	Gln	Asn	Gln	Gln	Thr	Pro	Asn	Ser	Ala	Ile
			305					310				315			320
Leu	Thr	Gly	Asn	Lys	Ala	Asn	Glu	Glu	Glu	Glu	Glu	Glu	Ile	Ile	Asp
			325					330				335			
Asp	Asp	Asp	Asp	Thr	Ile	Ser	Ser	Ser	Pro	Asp	Ser	Ala	Val	Ser	Asn
			340					345				350			
Thr	Ser	Leu	Val	Pro	Gln	Ala	Asp	Thr	Ser	Gln	Asn	Thr	Ser	Phe	Asp
			355					360				365			
Gly	Ser	Leu	Ile	Gln	Lys	Met	Gln	Ile	Pro	Thr	Leu	Leu	Gln	Glu	Pro
			370					375				380			
Leu	Ser	Asn	Ser	Leu	Lys	Ile	Ser	Asp	Ile	Ile	Thr	Arg	Asn	Thr	Asn
			385					390				395			400
Asp	Pro	Gly	Val	Gly	Ser	Lys	His	Leu	Met	Glu	Gly	Gln	Lys	Ile	Ile
			405					410				415			
Thr	Leu	Asp	Thr	Ala	Thr	Glu	Ile	Glu	Gly	Leu	Ser	Thr	Gly	Cys	Lys
			420					425				430			
Val	Tyr	Ala	Asn	Ile	Gly	Glu	Asp	Thr	Tyr	Asp	Ile	Val	Ile	Pro	Val
			435					440				445			
Lys	Asp	Asp	Pro	Asp	Glu	Gly	Glu	Ala	Arg	Leu	Glu	Asn	Glu	Ile	Pro
			450					455				460			
Lys	Thr	Ser	Gly	Ser	Glu	Met	Ala	Asn	Lys	Arg	Met	Lys	Val	Lys	His
			465					470				475			480
Asp	Asp	His	Tyr	Glu	Leu	Ile	Val	Asp	Gly	Arg	Val	Tyr	Tyr	Ile	Cys
			485					490				495			
Ile	Val	Cys	Lys	Arg	Ser	Tyr	Val	Cys	Leu	Thr	Ser	Leu	Arg	Arg	His

	500		505		510										
Phe	Asn	Ile	His	Ser	Trp	Glu	Lys	Lys	Tyr	Pro	Cys	Arg	Tyr	Cys	Glu
	515					520					525				
Lys	Val	Phe	Pro	Leu	Ala	Glu	Tyr	Arg	Thr	Lys	His	Glu	Ile	His	His
	530					535					540				
Thr	Gly	Glu	Arg	Arg	Tyr	Gln	Cys	Leu	Ala	Cys	Gly	Lys	Ser	Phe	Ile
545					550					555					560
Asn	Tyr	Gln	Phe	Met	Ser	Ser	His	Ile	Lys	Ser	Val	His	Ser	Gln	Asp
			565						570					575	
Pro	Ser	Gly	Asp	Ser	Lys	Leu	Tyr	Arg	Leu	His	Pro	Cys	Arg	Ser	Leu
	580							585					590		
Gln	Ile	Arg	Gln	Tyr	Ala	Tyr	His	Ser	Asp	Arg	Ser	Ser	Thr	Ile	Pro
	595					600						605			
Ala	Met	Lys	Asp	Asp	Gly	Ile	Gly	Tyr	Lys	Val	Asp	Thr	Gly	Lys	Glu
	610					615					620				
Pro	Pro	Val	Gly	Thr	Thr	Thr	Ser	Thr	Gln	Asn	Lys	Pro	Met	Thr	Trp
625					630				635						640
Glu	Asp	Ile	Phe	Ile	Gln	Gln	Glu	Asn	Asp	Ser	Ile	Phe	Lys	Gln	Asn
			645					650					655		
Val	Thr	Asp	Gly	Ser	Thr	Glu	Phe	Glu	Phe	Ile	Ile	Pro	Glu	Ser	Tyr
	660					665						670			

&lt;210&gt; 5057

&lt;211&gt; 673

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5057

```

nnggcggcgc agctattgct ggacggccag tgggagagcg aggcctgagc ctctgcgtct
60
aggatcaaaa tggtttcaat cccagaatac tatgaaggca agaacgtcct cctcacagga
120
gctaccgggt ttctagggaa ggtgcttctg gaaaagttgc tgaggtcttg tcctaagggtg
180
aatcagtat atgttttggg gaggcagaaa gctggacaga caccacaaga gcgagtggaa
240
gaagtcctta gtggcaagct ttttgacaga ttgagagatg aaaatccaga ttttagagag
300
aaaattatag caatcaacag cgaactcacc caacctaaac tggctctcag tgaagaagat
360
aaagaggtga tcatagattc taccaatatt atattccact gtgcagctac agtaagggtt
420
aatgaaaatt taaggtaagt acaagtaatt atataatatt tgaacttcag tatagttatt
480
aaaaaatctc attttaattc tacttttttag tcaatttggt ttgaatgtga tttgatacta
540
tttgccctatg ttaactgtgg ctttcagtgt cctacagagt gttaaaagaa ttctcttctt
600
cttctcagtt taaaaatctt ggataactaa tacatgttta ttggaagaag ttgccatgaa
660
tttaaacatg cat
673

```

&lt;210&gt; 5058

<211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 5058

```

Met Val Ser Ile Pro Glu Tyr Tyr Glu Gly Lys Asn Val Leu Leu Thr
 1           5           10           15
Gly Ala Thr Gly Phe Leu Gly Lys Val Leu Leu Glu Lys Leu Leu Arg
      20           25           30
Ser Cys Pro Lys Val Asn Ser Val Tyr Val Leu Val Arg Gln Lys Ala
      35           40           45
Gly Gln Thr Pro Gln Glu Arg Val Glu Glu Val Leu Ser Gly Lys Leu
      50           55           60
Phe Asp Arg Leu Arg Asp Glu Asn Pro Asp Phe Arg Glu Lys Ile Ile
65           70           75           80
Ala Ile Asn Ser Glu Leu Thr Gln Pro Lys Leu Ala Leu Ser Glu Glu
      85           90           95
Asp Lys Glu Val Ile Ile Asp Ser Thr Asn Ile Ile Phe His Cys Ala
      100          105          110
Ala Thr Val Arg Phe Asn Glu Asn Leu Arg
      115          120

```

<210> 5059  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<400> 5059

```

ctcgagaact gaaagacact ctctatgggt taagccaccc agtgcattgt atcttggtat
60
aactgcccga gctgactgag acggacgttc aggacagaga gcgtgaatgc atagtgcac
120
cagctgtgag tctttctcca gggacagtcg gcagccggcc ctaggtgcag agccgatgac
180
aaggacccag gctctcagca ggtcttccaa gcagtgtggt agaaaggcag gcaggggtgtg
240
gggaagtgga gccaggccac cagtcattgat gtcaagactg agccaggaag caaaggcagg
300
cagagagatg gggaggagag ggagcaggag gggactggcc atctctgaga cagaagcgtg
360
agtagtgggt ggacttgagg gcaggagagg actgaaaggg cagaggcctg ggcgatgcag
420
ccagagaggg agatgctggt gtggggaggt ctgggcaggg atgttttagg tgatggcaga
480

```

<210> 5060  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

<400> 5060

```

Met Ala Ser Pro Leu Leu Pro Leu Leu Pro Ile Ser Leu Pro Ala
 1           5           10           15
Phe Ala Ser Trp Leu Ser Leu Asp Ile Met Thr Gly Gly Leu Ala Pro

```

	20		25		30										
Leu	Pro	His	Thr	Leu	Pro	Ala	Phe	Leu	Pro	His	Cys	Leu	Glu	Asp	Leu
	35				40				45						
Leu	Arg	Ala	Trp	Val	Leu	Val	Ile	Gly	Ser	Ala	Pro	Arg	Ala	Gly	Cys
	50				55				60						
Arg	Leu	Ser	Leu	Glu	Lys	Asp	Ser	Gln	Leu	Val	Ser	Leu	Cys	Ile	His
65					70				75					80	
Ala	Leu	Cys	Pro	Glu	Arg	Pro	Ser	Gln	Ser	Ala	Arg	Ala	Val	Ile	Thr
			85					90					95		
Arg	Tyr	His	Ala	Leu	Gly	Gly	Leu	Thr	His	Arg	Glu	Cys	Leu	Ser	Val
			100					105					110		
Leu	Glu														

&lt;210&gt; 5061

&lt;211&gt; 2462

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5061

```

gcggccgcca attttttttt tttttttttt ttttttttaa aaaggcccaa aactttatctt
60
agttttcagg gaaatataag atgcatgtaa acataaaata caaaacaaaa cccaaatctt
120
acagtctaga agcatgccaa gacagagcat tttctgcaga ccaaagagtc cegtcaaagt
180
gataaaggac acctggaaag tggcaggcca aggggctggt cccttcccca agggcactgc
240
atttttgtga tgagattaaa aacaaaccaa ctccactatt aaaaatgcta gaaacatgga
300
gatagtttag caccaccatt gattctggaa atatttcagc actcaaactg actgcactga
360
gtttaatgtc ctttctccag tttctctgct gaggaggaaa gaaggaaaac ctggaggaag
420
ggctcctcct gacccacag agcccactaa gagctgggag gggaattcca tgaggaattc
480
tccaagggtt tggagctcca gagacatcca ccagtcccca ccagccatg cagtccacat
540
gtcacgctt cagggattac tgaagtctgc cttgcccggg agtcacttcc tgcagacctc
600
tgagtacctg gtggggaaac ccatttccca tctgtgtctt tggatttaaa gaaaacctgt
660
tggagataat gagttgtaaa ttcaaggagg gtggctgttt tgctgttctt tctctgcagt
720
aaactcttat ggggagtggt ccttggttat aaggcaacgc aaaatggtag ggtatatcca
780
tggatgaatg ttcacacac ccaatctaatt tcataccagg tggcaggctc agcaaactga
840
accaccacag gtgtcagaga tacttgagaa tgactggtac caacaagacg acaaaggagg
900
ttgccttctt cccagatgtg cccaatggag tctgaactct gggttctaatt tgtggagggtg
960
ggtccctact gtatgaccca ttgtgggtcac tgctctttga gccatacaac ttgagagact
1020

```

ggcttttgat tggacagtca aaggggaagtg ggcaaaacca gctgagaacc cgggagctgg  
1080  
atgcatatat tctggaatca gggcctgcaa actcaaagat tggtttgtgg ctggtgactt  
1140  
ctctctgcta agtaaatcaa tgaccattca ttgagaactg atggggaccc agcgtgtggc  
1200  
ccaatgagtg gcagtttttt cctagccagc ttctgtggcc aaatttggag gattttccaa  
1260  
cctgctatgg ctggaccctt ggggtgttaa tcaactaaatt ccctttctac ctgctctctt  
1320  
cttcctgaaa cactcagagc tgacttcttc cttctttcta atcaacaaag acaaaactcc  
1380  
aagccccttt tcagccttca cacaattttt ctttctagaa gacatccgct tctggaagcc  
1440  
tccttcccta atgaaggagc agtaggcccc agctacccca aacatgcaca tgctcttctc  
1500  
accaacgtgc ctctcacttg cctctaacgt gctcgagcca tccttttgtt ctaaataatt  
1560  
cttctccct ccctccctt tttctcttc acctcttgag gcgcagccta ttggccagga  
1620  
tggaactggg agcaaggcgg ggaccctcag tgcaaggagc ccatttctt aaggccactg  
1680  
agttctagga ctggagtagg agaggggtgct gttgtcaagg ttaagtgcaa acttgagatt  
1740  
ttaaaaagac aggattgggg aagggggatt gcatgcta atcccaacctta taggcaggct  
1800  
gggatcaaga ccttggaagg tagggctctc caccagctct gtaagcacca gtgtgcccac  
1860  
cttatggcct ggggacccag gtttgagga ggggaagttaa cagtggggct gtttttcccc  
1920  
aaagctgtgg gtcactgatc ctgtcttctc actggctctg atcatgcagc ttgggaacca  
1980  
cagagacatg agactgcacc aaacagggt gatgatttag ccagaaactc aggaagggtc  
2040  
agcacagccc tccacacact tcccaggaag tgtttggctt ggccctgcag ttgggactaa  
2100  
acttatatgc acctgcaggt cttgttgggt gcaccgtgag caagttctca cccaaccac  
2160  
ctgacccacc ctctgaaaca aggacgaaag ggctggcagc tttcattata aggggtctct  
2220  
cataccatg gcatggctga ggggtgggag tcagcctgct cgatgacagc tctgcagggg  
2280  
atgacctaac tgaaccaact cagtgtttct attcccagtg gcatctctt tgcacatctt  
2340  
cattttggag cctgggatga ctgcctaggg cacttatgct agacctgtta atgccagtgt  
2400  
gaaatttcca actaaatact taataaaata attacaaaaa gaaaaaaaaa tgacacattg  
2460  
ca  
2462

&lt;210&gt; 5062

&lt;211&gt; 136

&lt;212&gt; PRT

<213> Homo sapiens

<400> 5062

```

Met Ala Gly Trp Gly Leu Val Asp Val Ser Gly Ala Pro Glu Pro Trp
 1           5           10           15
Arg Ile Pro His Gly Ile Pro Leu Pro Ala Leu Ser Gly Leu Cys Gly
      20           25           30
Val Arg Arg Ser Pro Ser Ser Arg Phe Ser Phe Phe Pro Pro Gln Gln
      35           40           45
Arg Asn Trp Arg Lys Asp Ile Lys Leu Ser Ala Val Asp Leu Ser Ala
      50           55           60
Glu Ile Phe Pro Glu Ser Met Val Val Leu Asn Tyr Leu His Val Ser
      65           70           75           80
Ser Ile Phe Asn Ser Gly Val Gly Leu Phe Leu Ile Ser Ser Gln Lys
      85           90           95
Cys Ser Ala Leu Gly Glu Gly Thr Ser Pro Leu Ala Cys His Phe Pro
      100          105          110
Gly Val Leu Tyr His Phe Asp Gly Thr Leu Trp Ser Ala Glu Asn Ala
      115          120          125
Leu Ser Trp His Ala Ser Arg Leu
      130          135

```

<210> 5063

<211> 561

<212> DNA

<213> Homo sapiens

<400> 5063

```

gacgcaaccc cagtgtcaaa ccagggggta agtcaaggta tccggccagg cgccggcagc
60
tgagggggcc cagtggggtc tcgtctgtgg cccagagacg tggcgggaaga aggcagtaca
120
tctcccttct tagagagaga gtggaagctt ctgagtgtgg cttgggtcgt tctgaaccat
180
ggtgacgttt ccaccctgcc actgcctgtc ttccagtttg acttgctgga aatggaccgg
240
ctggagaggc cactggttga cctgccgtc ctctggacc cgccctccta cgtgcccagc
300
acggtggacc tcaccgatga cgctctggcc cgaaaatact ggctcacctg ctttgaggag
360
gccctggacg gggtagtgaa gcgcgcagtg gcgagccagc cagactctgt ggatgcagcc
420
gagagggcgg agaagttccg gcagaagtac tggaacaagc ttcagaccct gaggcagcag
480
cccttcgcct atgggaccct gaccgtgcgc agcctgctgg acaccagggg gcactgtctg
540
aacgagttca acttcccgga t
561

```

<210> 5064

<211> 110

<212> PRT

<213> Homo sapiens

&lt;400&gt; 5064

```

Met Asp Arg Leu Glu Arg Pro Leu Val Asp Leu Pro Leu Leu Asp
 1           5           10           15
Pro Pro Ser Tyr Val Pro Asp Thr Val Asp Leu Thr Asp Asp Ala Leu
      20           25           30
Ala Arg Lys Tyr Trp Leu Thr Cys Phe Glu Glu Ala Leu Asp Gly Val
      35           40           45
Val Lys Arg Ala Val Ala Ser Gln Pro Asp Ser Val Asp Ala Ala Glu
      50           55           60
Arg Ala Glu Lys Phe Arg Gln Lys Tyr Trp Asn Lys Leu Gln Thr Leu
65           70           75           80
Arg Gln Gln Pro Phe Ala Tyr Gly Thr Leu Thr Val Arg Ser Leu Leu
      85           90           95
Asp Thr Arg Glu His Cys Leu Asn Glu Phe Asn Phe Pro Asp
      100           105           110

```

&lt;210&gt; 5065

&lt;211&gt; 370

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5065

```

attgaggacg cgcgggagcg aatgaggacg ctgcggaagc tgatccggga tctcccagga
60
cactactatg aaacgctcaa attccttggtg ggccatctca agaccatcgc tgaccactct
120
gagaaaaaca agatggaacc ccggaacctg gccctggtct ttgggcccgc actggtgagg
180
acgtctgagg acaacatgac agacatggtg acccacatgc ctgaccgcta caagatcgtg
240
gagacactga tccagcactc agactggttc ttcagtgcgc aagaggacaa gggagagaga
300
attctaccac ctgtagttca gtcaagtcca aggggttcgtg ggcccccaag aaggagccgt
360
acgcccgggc
370

```

&lt;210&gt; 5066

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5066

```

Ile Glu Asp Ala Arg Glu Arg Met Arg Thr Leu Arg Lys Leu Ile Arg
 1           5           10           15
Asp Leu Pro Gly His Tyr Tyr Glu Thr Leu Lys Phe Leu Val Gly His
      20           25           30
Leu Lys Thr Ile Ala Asp His Ser Glu Lys Asn Lys Met Glu Pro Arg
      35           40           45
Asn Leu Ala Leu Val Phe Gly Pro Thr Leu Val Arg Thr Ser Glu Asp
      50           55           60
Asn Met Thr Asp Met Val Thr His Met Pro Asp Arg Tyr Lys Ile Val
65           70           75           80
Glu Thr Leu Ile Gln His Ser Asp Trp Phe Phe Ser Asp Glu Glu Asp

```



				85						90					95				
Lys	Gly	Glu	Arg	Ile	Leu	Pro	Pro	Val	Val	Gln	Ser	Ser	Pro	Arg	Val				
			100					105					110						
Arg	Gly	Pro	Pro	Arg	Arg	Ser	Arg	Thr	Pro	Gly									
		115					120												

&lt;210&gt; 5067

&lt;211&gt; 2023

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5067

gctgaggcac aacatgatcg agagcttcgg nagcttgaac agagggtctc cctccggagg  
 60  
 gcactcttag aacaaaagat tgaagaagag atgttggtctt tgcagaatga gcgcacagaa  
 120  
 cgaatacgaa gcctgttgga acgtcaagcc agagagattg aagcttttga ctctgaaagc  
 180  
 atgagactag gtttttagtaa tatgggtcctt tctaattctct cccctgaggc attcagccac  
 240  
 agctacccgg gagcttctgg ttgggtcacac aaccctactg ggggtccagg acctcactgg  
 300  
 ggtcatccca tgggtggccc accacaagct tggggccatc caatgcaagg tggaccccag  
 360  
 ccatggggtc acccttcagg gccaatgcaa ggggtacctc gaggtagcag tatgggagtc  
 420  
 cgcaatagcc ccaggctct gagggcgaca gcttctgggg gacggacaga gcagggcatg  
 480  
 agcagaagca cgagtgtcac ttcacaaata tccaatgggt cacacatgtc ttatacataa  
 540  
 ctttaataatt gagagtggca attccgctgg agctgtctgc caaaagaaac tgcctacaga  
 600  
 catcatcaca gcagcctcct cacttgggta ctacagtgtg gaagctgagt gcatatggta  
 660  
 tattttattc atttttgtaa agcgttctgt tttgggttta ctaattggga tgtcatagta  
 720  
 cttggctgcc gggtttgttt gtttttgggg aaattttgaa aagtggagtt gatattaaaa  
 780  
 ataaatgtgt atgtgtgtac atatataac acacacatac acatatatta tgcattgtgt  
 840  
 gaaaagaatt ggctagatag gggatttttc tgaacactgc aaaaatagaa cgtagcaaaa  
 900  
 tggcttcagt tatcactttt ggggtgtctgt atcctaagaa gtttctgaaa agatctaaag  
 960  
 cctttttatc ccatatccca aattcttatg agccactcac agcaggcagc atatgttgaa  
 1020  
 ataagttatt actggtacac acctgcattg cctcaccagt gtattttatt gttattaaat  
 1080  
 tgatctgact tctcagcctc atttggacta aaaaaagaaa gcagaaatcc atgaacacat  
 1140  
 tgcttctcgg ccttttggct aagatcaagt gtagaaatcc atgaacacta aaggacttca  
 1200  
 ttgatttttt cagagagtag aaaacaactt agtttttctt ttttctgaa tgcgtcatag  
 1260

gcttgtgagt gatttttgtc cattcaattg tgccttcttt gtattatgat aagatggggg  
 1320  
 tacttaagga gatcacaagt tgtgtgagga ttgcattaac aaacctatga gccttcaatg  
 1380  
 gggaagacca gaaggggtgag aggggccctg aaagttcata tgggtgggtat gtcccgacgc  
 1440  
 agagtgagga gatgaagctt acgtgtcctg acgttttgtt gcttatactg tgatatctca  
 1500  
 tcctagctaa gctctataat gcccaagacc ccaaacagta cttttacttt gtttgtacaa  
 1560  
 aaacaaagac atatagccaa tacaaatcaa atgccggagg tgtttgatgc catatttgca  
 1620  
 aattgccatc tattgaaatt ctcgtcacac tacatagaca taattgttat ctccttttgg  
 1680  
 cttatgtgat tttctgttta caagtagaat agccaattat ttaaagtgtt agttgccaca  
 1740  
 gtgaaccagg agtcactgag ccaatgactt taccagctgc tgactaatct tcatcaccac  
 1800  
 tgtagatttt gctgcatgtg caggtcctct atttttaatt gctgttttcg ttgctgcagt  
 1860  
 actttacaaa cttctagtgc gttgagactt agtgaccatt tggcatcaag ttaacatcac  
 1920  
 acaataggaa acaccacttc cacaagtctc aagcctcagt gctaaagtac tactgaaaag  
 1980  
 gaactaggaa gtttggccaa ttaaaaaaaaa aaaaaagtcg acc  
 2023

<210> 5068

<211> 179

<212> PRT

<213> Homo sapiens

<400> 5068

Ala	Glu	Ala	Gln	His	Asp	Arg	Glu	Leu	Arg	Xaa	Leu	Glu	Gln	Arg	Val
1				5					10					15	
Ser	Leu	Arg	Arg	Ala	Leu	Leu	Glu	Gln	Lys	Ile	Glu	Glu	Glu	Met	Leu
			20					25					30		
Ala	Leu	Gln	Asn	Glu	Arg	Thr	Glu	Arg	Ile	Arg	Ser	Leu	Leu	Glu	Arg
		35					40					45			
Gln	Ala	Arg	Glu	Ile	Glu	Ala	Phe	Asp	Ser	Glu	Ser	Met	Arg	Leu	Gly
	50					55				60					
Phe	Ser	Asn	Met	Val	Leu	Ser	Asn	Leu	Ser	Pro	Glu	Ala	Phe	Ser	His
65				70					75					80	
Ser	Tyr	Pro	Gly	Ala	Ser	Gly	Trp	Ser	His	Asn	Pro	Thr	Gly	Gly	Pro
			85					90					95		
Gly	Pro	His	Trp	Gly	His	Pro	Met	Gly	Gly	Pro	Pro	Gln	Ala	Trp	Gly
		100					105					110			
His	Pro	Met	Gln	Gly	Gly	Pro	Gln	Pro	Trp	Gly	His	Pro	Ser	Gly	Pro
	115					120					125				
Met	Gln	Gly	Val	Pro	Arg	Gly	Ser	Ser	Met	Gly	Val	Arg	Asn	Ser	Pro
	130					135					140				
Gln	Ala	Leu	Arg	Arg	Thr	Ala	Ser	Gly	Gly	Arg	Thr	Glu	Gln	Gly	Met
145				150					155					160	
Ser	Arg	Ser	Thr	Ser	Val	Thr	Ser	Gln	Ile	Ser	Asn	Gly	Ser	His	Met

165  
 Ser Tyr Thr  
 <210> 5069  
 <211> 3655  
 <212> DNA  
 <213> Homo sapiens  
 <400> 5069  
 ntttttttttt tttttttttt tttggaagtc ctgagttgag gcttgcggga tcctttccgg  
 60  
 agaaagcgca ggctaaagcc gcaggtgaag atgtccaact acgcgaacga catgtggccg  
 120  
 ggctcgccgc aggagaagga ttcgccctcg acctcgcggt cgggcgggtc cagccggctg  
 180  
 tcgtcgcggt ctaggagccg ctctttttcc agaagctctc ggtcccattc ccgctctcgc  
 240  
 agccggtttt cgtccaggag tcggaggagc aagtccaggt cccgttcccc aaggcgccac  
 300  
 cagcggaaagt acaggcgcta ctcgcggtca tactcgcgga gccggtcgcg atcccgcagc  
 360  
 cgccgttacc gagagaggcg ctacgggttc accaggagat actaccggtc tccttcgcgg  
 420  
 taccggctcc ggtcccgtag caggctcgcg tctcggggaa ggtcgtactg cggaagggcg  
 480  
 tacgcgatcg cgcggggaca gcgctactac ggctttggtc gcacagtgtg cccggaggag  
 540  
 cacagcagat ggaggggacag atccaggacg aggtcgcgga gcagaacccc ctttcgctta  
 600  
 agtgaaaaaag gtgggtgggt catttacctt tccatttgtg gtaatgtatg gtggcagtat  
 660  
 atgagtaggc tagggaacca acgttgctgt gtagtttcaa tattagttcc tttagtgcc  
 720  
 gaaatctttt tggaggaaaag agggaggaca ttacctgtat ttaagtggac agcattctct  
 780  
 ttagggttaa aggtcaactg gaagttaa atggctcaggat gtagggaact ttttttcccta  
 840  
 ttggctgact gttcttagtg ggtggagcct tttaaatggt atgattaagt taaaggttct  
 900  
 aagttaacgt gattgggaag aacaatatca aaacacgcct tcttttagtt gacattatta  
 960  
 ctgaataaaa ttggattgtc gagtatccta agtgacctag gaggccgggc gcggcggtc  
 1020  
 acctctgtaa tcccagcact tggggaggcg gaggcggagg cgggtgggtc acttgaggcc  
 1080  
 aggcgttcca caccagccag gccaacatag ctactatct agtaaaagta caaaaattag  
 1140  
 ccgggggttg cggtagaaat acactttagt agtgtatcag tattggttca gtggttgtga  
 1200  
 taattatata aagaatctac agcagaaaaa cctgggttttc agaaatacat ctttgaagag  
 1260  
 aaagcaaaat aatatcacta ttagctagag aaaattaagt acaacaaaaa gacaaaataa  
 1320

taggacgctc aggccttttag tcaagaaaac aaaactaatt gttgagataa tttagaatt  
1380  
ttattctttt cagcaagaaa tgagctggag aatagaattt tcagtgaata aagttacaca  
1440  
gttgccctc tgttcaactc ggggtttggt gccaggatgc atatggaacc ctgcgcaca  
1500  
cttgggggtt acagtctctc aaacactgtg gtactttcta tctgcattta gtaaggggga  
1560  
gaaaaaaca gtataaagtg gaccagcgca gctactagtg ttcaagggca accttagttt  
1620  
acctattata aaacaagtga cttaatatat ttaataccac aaaataacat atttattgtg  
1680  
taattctgag ttctcttggg aaataactac cagattaatg agtattttta aatctctctc  
1740  
ttttttttt agatcgaatg gagctggttag aaatagcaaa aaccaatgca gcgaaagctc  
1800  
taggaacaac caacattgac ttgccagcta gtctcagaac tgttccttca gccaaagaaa  
1860  
caagccgtgg aataggtgta tcaagtaatg gtgcaaagcc tgaagtaagt attctaggtt  
1920  
tgtcggaaca aaactttcag aaagccaact gtcaaactctg attagccact tatatcttag  
1980  
actatacttt ttgggaagtc tagagatgta tataatgtgc taaattcaaa gtagcaaadc  
2040  
tgaagatagg caatgtcaaa cccatgaaaa tgggagatta atgagcttta tttggccgtg  
2100  
catggtgcct catgcctgta atgaggcaga tggcttgagt ccaggagttc aagactagcc  
2160  
tgggcaatgt ggcaaaaccg cgtgtttaca aaaaatacaa aaattagcca ggcatggtgg  
2220  
tgcagcctg tagtcccagc tgtttgggag gctgaggcag gaggatcttt gagcctagga  
2280  
tgctaagggt gcagttagcc aagatggcac cattgcactc tagcctgggc agcagagcga  
2340  
gacctgtct caaaaaatac atttattttt ttcattttca gttaacagtg tactcttata  
2400  
acaccgttat tagctggtac tttggtgatt tctattacta gtttttctaa gctatttaca  
2460  
gagtgtttgt agctttcatt tgcagcatta tgttcccaca aattctgtac tcagcatata  
2520  
cagtatagtt tatctgtct atttctgtct tatagaaatc atgaatgtgg tctccagaca  
2580  
gtgatgaaga aaatctgttg gtaattgata catgggttca agtgtcagag gtttaatttg  
2640  
aagtttatgt tcacacactg aaaacttagt tttttgttg gtagatccat gtgcatgcta  
2700  
gaatttggga caggcactat ttgcataaag tattaaagtc aatttttaaa ctaagcaag  
2760  
gtacacgttg taacggtggg gcatctgtga aaaagatgtc cctttcataa tatatgcaat  
2820  
atattccaga tgttttgaga gattacagaa gaggaggcct gcttcacttg cagataagtt  
2880  
tattataatt ctccagaaat gtgcaggatg tgcattagca aattgcactg tacttttcac  
2940

tccagcctgg gtgacagagc aagactcccc tctcgggggc ttaaaaaaaaa aaaaatgctg  
 3000  
 tatctaaatg aatctgtgta attgggcccga gatgtgggtt tgctcagtat tagtagacaa  
 3060  
 ggtctttgtt cagacgatta ggtgcctaac tggcaaagtc cttagtttct taaaacgtat  
 3120  
 tttctgatgt ggctttacat ttcaaaagtg aacttgattc aacctgagaa aactgattaa  
 3180  
 aaaattagtt taaatttgcc agcaggggaag taaaataatt atgggaagag tgtcttaagc  
 3240  
 ctaatattaa atcagttttg ttaaggggaa aactcaatag ttctgttact taggctgtta  
 3300  
 gatccaagtt gatttttgtg tctacagcta aattttgttt acaattagtc tatttttttaa  
 3360  
 tataggattt agaaaccaag ggtatgtgtt ttaaaattac actttttctt aacctgtcta  
 3420  
 gctgtcggaa aaggtaacag aagatggaac tcgaaatccc aatggaaaac ctaccagca  
 3480  
 aagaagcata gcttttagct ctaataattc tgtagcaaag ccaatacaaa aatcagctaa  
 3540  
 agctgccaca gaagaggcat cttcaagatc accaaaaata gatcagaaaa aaagtcata  
 3600  
 tggactgtgg atacctatct aaaagaagaa aactgatggc taagtttgca tgaaa  
 3655

<210> 5070

<211> 255

<212> PRT

<213> Homo sapiens

<400> 5070

Met	Ser	Asn	Tyr	Ala	Asn	Asp	Met	Trp	Pro	Gly	Ser	Pro	Gln	Glu	Lys
1				5					10					15	
Asp	Ser	Pro	Ser	Thr	Ser	Arg	Ser	Gly	Gly	Ser	Ser	Arg	Leu	Ser	Ser
			20					25					30		
Arg	Ser	Arg	Ser	Arg	Ser	Phe	Ser	Arg	Ser	Ser	Arg	Ser	His	Ser	Arg
			35				40					45			
Val	Ser	Ser	Arg	Phe	Ser	Ser	Arg	Ser	Arg	Arg	Ser	Lys	Ser	Arg	Ser
			50				55				60				
Arg	Ser	Arg	Arg	Arg	His	Gln	Arg	Lys	Tyr	Arg	Arg	Tyr	Ser	Arg	Ser
65					70				75					80	
Tyr	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Arg	Tyr	Arg	Glu	Arg
				85				90						95	
Arg	Tyr	Gly	Phe	Thr	Arg	Arg	Tyr	Tyr	Arg	Ser	Pro	Ser	Arg	Tyr	Arg
			100				105						110		
Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Gly	Arg	Ser	Tyr	Cys	Gly
			115				120						125		
Arg	Ala	Tyr	Ala	Ile	Ala	Arg	Gly	Gln	Arg	Tyr	Tyr	Gly	Phe	Gly	Arg
			130				135						140		
Thr	Val	Tyr	Pro	Glu	Glu	His	Ser	Arg	Trp	Arg	Asp	Arg	Ser	Arg	Thr
145					150					155				160	
Arg	Ser	Arg	Ser	Arg	Thr	Pro	Phe	Arg	Leu	Ser	Glu	Lys	Gly	Gly	Trp
				165				170						175	
Val	Ile	Tyr	Leu	Ser	Ile	Cys	Gly	Asn	Val	Trp	Trp	Gln	Tyr	Met	Ser

4254

atagatttct catgcagcta gtgaggggac ttctctcttc acccatttcc accttctcct  
 1200  
 attttccttt ttttctcttc tgttgagatg gagtctcact ctgtcaccca ggctggagtg  
 1260  
 cagtgtcgcg accttggtc actgcaacct ccacctccca ggttcaagca attctccac  
 1320  
 ctcagcctcc aaagtagctg ggattacagg catgcgcaac catgcccagc taatttttgt  
 1380  
 aatttttagta gagatgggtt ttcgcttagt agagatgggt gtttgccagg ctggtcccga  
 1440  
 actcctgacc tcaggtgatc cgccacctc ggcctccaa agtgctgggg ttacaggctt  
 1500  
 aagccaccaa gcccgccga ccttcttcta ttttccatt ctctttcca aagccatggc  
 1560  
 catgcgctcc tgtgtacagg tgcataaaca catcagtgtg ccatccctca catgcatgtc  
 1620  
 gttccccacc ctccttccc agggcttctc ttggctccag cgttctctg ggacctctg  
 1680  
 cagatacagc ctgtgctgga cccccagcca gggtagggc tcattctgct ctgtcttccc  
 1740  
 cactgcctca gtttccccca aaagctgctt tcacgtcctt ctagtagggg gcctcccatg  
 1800  
 ggggcaagga tccccttag gattcaatct ttctctttg ggcagttttg gctttgagtc  
 1860  
 ccccaggat cagggtgaga atgaagaaga gctcagttag cggaatgaca gcagctgggt  
 1920  
 ggggtggtg gggagaggct gagggaagg cagcccccc aggggggcct aaccgtggaa  
 1980  
 tcactgcaat ttctctgag atcccactt ggacaaccag gacagggatt gaccattccc  
 2040  
 tccccattcc actcggactg tgtccaagcg ggggctgtcc actgcggggg ctgcctcccc  
 2100  
 atcgggtcct aacagctcta agactgggag tggagtctct ggaggtgtgg ggaggggggc  
 2160  
 gtgttttcaa tttagaaaaa ttcagccag ctcgag  
 2196

&lt;210&gt; 5072

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5072

Met	Glu	Ser	His	Ser	Val	Thr	Gln	Ala	Gly	Val	Gln	Cys	Arg	Asp	Leu
1				5					10					15	
Gly	Ser	Leu	Gln	Pro	Pro	Pro	Pro	Arg	Phe	Lys	Gln	Phe	Ser	His	Leu
		20						25					30		
Ser	Leu	Gln	Ser	Ser	Trp	Asp	Tyr	Arg	His	Ala	Gln	Pro	Cys	Pro	Ala
		35				40					45				
Asn	Phe	Cys	Asn	Phe	Ser	Arg	Asp	Gly	Phe	Ser	Leu	Ser	Arg	Asp	Gly
	50					55					60				
Cys	Leu	Pro	Gly	Trp	Ser	Arg	Thr	Pro	Asp	Leu	Arg				
65					70						75				

<210> 5073  
<211> 1712  
<212> DNA  
<213> Homo sapiens

<400> 5073  
ntgtggaagc agctttctgg tgagcaggtg agctggagca aggacttccc agctgtggac  
60  
tctgtgctgg tgaagctcct ggaagtgatg gaaggaatgg acaaggagac gtttgagtgc  
120  
aagtttgga aggaactaac attcaccact gtactgagt accaacagg ggtggagctg  
180  
atccctgggg gtgcaggcat cgtcgtggga tatggggacc gttctcgttt catccaactg  
240  
gtccagaagg cacggctaga ggagagcaag gagcaggtgg cagctatgca ggcaggtctg  
300  
ctgaaggtgg taccacaggc tgtgtcggac ttgtgacct ggcaagagtt ggagaagaaa  
360  
gtgtgtgggg atccagaggt cactgtggat gctctgcgca agctcaccgg gtttgaggac  
420  
ttcgagccat ctgactcgcg ggtgcagtat ttctgggagg cactgaacaa cttcaccaac  
480  
gaggaccgga gccgcttcct gcgctttgtc acggggccgca gtcgcctgcc agcacggnna  
540  
tctacatcta cccagacaag ctgggctacg agaccancag acgcgctgcc cgagtcttcc  
600  
acttgcctca gcacctctt cctgccacac tatgccagt ccaaggatg cgaggagaag  
660  
ctccgctatg cggcctacaa ctgcgtggcc atcgacactg acatgagccc ttgggaggag  
720  
tgaggcgtgc cgcggctgt gggaccagca agactgcacg tgtccctctt ggccctgccc  
780  
agggcgaaga cacttccct gccctgggtt ggctgacgtg ctcagcaaaa ccccatgtgc  
840  
cctgctcctg tgtgcagttg gggtaggggc agctggcatg gtcaggtaac actagtggcc  
900  
cagccccgca gaccacaag ccctaccctg gctggggcct gcttcccag gtatttcacc  
960  
tcttaagagg gaatcttcca caagcccagc acaagctgcc aggctgagc tacttgaagg  
1020  
gggccatcta ggtccccaac ccatggactt tgccctcatt ttcagctccg cttttttct  
1080  
cctattttct ctctggcttt cttcagccat gactcacaac taaaaacata aaacttgga  
1140  
ggtagtgga ggccctccc caagcaggga gcctgggatg ggcaggaggt gatagccaaa  
1200  
ctccttggtc acctgtcca agaaggaagc agtagctgag cacctgccct cacatactgc  
1260  
tcttttcccc tctccctcca caccagagat gtggtgagct ctgtttctt accaaccag  
1320  
tctcaacaca caaagtgcc ccacctccc tgactcagaa cccacatcca ctcaatgtga  
1380  
actctactac cagacctcc ccatattcct cacttctcca tcacctccag cctgactccc  
1440



tgtctgcctt ttcaccccca agattttgca cagggttaagg ccagttatgg cctttttgaa  
 1500  
 atctgtaata gctccctttt ccccaactct aaagcctaga ccttaaactt gttcctagag  
 1560  
 ctatgcacac ccttgcccca gtttaccgtt cctccctcag ggccctccgtg acactccatg  
 1620  
 aaaagaagtt cttgcatacc ggaaagttga ataaatggat gaattcaaaa aaaaaaaaaa  
 1680  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1712

<210> 5074

<211> 240

<212> PRT

<213> Homo sapiens

<400> 5074

Xaa	Trp	Lys	Gln	Leu	Ser	Gly	Glu	Gln	Val	Ser	Trp	Ser	Lys	Asp	Phe
1			5						10					15	
Pro	Ala	Val	Asp	Ser	Val	Leu	Val	Lys	Leu	Leu	Glu	Val	Met	Glu	Gly
		20						25					30		
Met	Asp	Lys	Glu	Thr	Phe	Glu	Phe	Lys	Phe	Gly	Lys	Glu	Leu	Thr	Phe
		35				40						45			
Thr	Thr	Val	Leu	Ser	Asp	Gln	Gln	Val	Val	Glu	Leu	Ile	Pro	Gly	Gly
		50				55					60				
Ala	Gly	Ile	Val	Val	Gly	Tyr	Gly	Asp	Arg	Ser	Arg	Phe	Ile	Gln	Leu
65					70				75					80	
Val	Gln	Lys	Ala	Arg	Leu	Glu	Glu	Ser	Lys	Glu	Gln	Val	Ala	Ala	Met
			85						90					95	
Gln	Ala	Gly	Leu	Leu	Lys	Val	Val	Pro	Gln	Ala	Val	Leu	Asp	Leu	Leu
		100						105					110		
Thr	Trp	Gln	Glu	Leu	Glu	Lys	Lys	Val	Cys	Gly	Asp	Pro	Glu	Val	Thr
		115						120				125			
Val	Asp	Ala	Leu	Arg	Lys	Leu	Thr	Arg	Phe	Glu	Asp	Phe	Glu	Pro	Ser
		130				135					140				
Asp	Ser	Arg	Val	Gln	Tyr	Phe	Trp	Glu	Ala	Leu	Asn	Asn	Phe	Thr	Asn
145				150					155					160	
Glu	Asp	Arg	Ser	Arg	Phe	Leu	Arg	Phe	Val	Thr	Gly	Arg	Ser	Arg	Leu
			165						170					175	
Pro	Ala	Arg	Xaa	Ser	Thr	Ser	Thr	Gln	Thr	Ser	Trp	Ala	Thr	Arg	Pro
		180						185					190		
Xaa	Asp	Ala	Leu	Pro	Glu	Ser	Ser	Thr	Cys	Ser	Ser	Thr	Leu	Phe	Leu
		195						200				205			
Pro	His	Tyr	Ala	Ser	Ala	Lys	Val	Cys	Glu	Glu	Lys	Leu	Arg	Tyr	Ala
		210				215					220				
Ala	Tyr	Asn	Cys	Val	Ala	Ile	Asp	Thr	Asp	Met	Ser	Pro	Trp	Glu	Glu
225					230					235				240	

<210> 5075

<211> 444

<212> DNA

<213> Homo sapiens

<400> 5075

tatggaagat ggactggaac aaggacccag ccagttaagg aggcttagaa tgctgggagc  
 60  
 ctgacctctg cctgtggtat cacctctgcc tgtgataaca gacaaaacca ggaagtgtat  
 120  
 ttactaaaaa gaataaacag tgctcgggtga atgggtgagag gaccagagag gaaatgggaa  
 180  
 taagtaatag gcatgtggcc agcagaaaaa ggagccaata tataagaaag caacaagtaa  
 240  
 actgctcccc tcgatggcag tgggaagcct gctgggatgg tgggggatca ggaaacttct  
 300  
 ctagccctgg aacactgaga gagacagaag tgatcactgc tgtgttgga ctggggaggg  
 360  
 gtggggacca agtgaccgca gatcagaagt cactgaatat caacgccatg gagagagagc  
 420  
 tggtctcttc gttaagagtt gcct  
 444

<210> 5076

<211> 90

<212> PRT

<213> Homo sapiens

<400> 5076

Met	Gly	Ile	Ser	Asn	Arg	His	Val	Ala	Ser	Arg	Lys	Arg	Ser	Gln	Tyr
1				5					10					15	
Ile	Arg	Lys	Gln	Gln	Val	Asn	Cys	Ser	Pro	Arg	Trp	Gln	Trp	Glu	Ala
			20					25					30		
Cys	Trp	Asp	Gly	Gly	Gly	Ser	Gly	Asn	Phe	Ser	Ser	Pro	Gly	Thr	Leu
		35				40						45			
Arg	Glu	Thr	Glu	Val	Ile	Thr	Ala	Val	Leu	Glu	Leu	Gly	Arg	Gly	Gly
	50					55					60				
Asp	Gln	Val	Thr	Ala	Asp	Gln	Lys	Ser	Leu	Asn	Ile	Asn	Ala	Met	Glu
65				70					75					80	
Arg	Glu	Leu	Ala	Leu	Ser	Leu	Arg	Val	Ala						
			85						90						

<210> 5077

<211> 2352

<212> DNA

<213> Homo sapiens

<400> 5077

tttttttttt tttttttcaa atgcagcata ttttaatttg tttcaaataa agcaatatat  
 60  
 gtatatatat tttttcagaa aaacaccaga tgttaaattc tacaaaagcg catgtgtcct  
 120  
 cagcagatca tgtttgtctg attattaaga attctttttt gtaacattaa ctctctaaag  
 180  
 acaatcaatg gactgacatc actgctacaa cacaggttgc taactgagcc tctgatcttc  
 240  
 agccacatct tgatttttct aataatgagt aaatactgcc tggctaaaat gctgcaaagt  
 300  
 cttgatgaga gaaagcatca acagatcaag caaagccatg aaaattatga agcaagctag  
 360

agctgattat tagaattagt aaaaatgatt aagagaggat gacacaacca tacgggattt  
420  
gtatattctg attgacactc ttttggcagc gaattgggtc agcacctcgg gcagggaaacc  
480  
aaaactgagt gaaaactgct ctttttcctc ctagctcagg ccaccaacgt cacagccggg  
540  
actgagagaa ctgctgcac tgtggaaact tctattctcg tggggcagag attgcactgt  
600  
gaaaccctac cgacactacc ccggaagggc ctggcctccg aggtgtctgc agcgtgctgc  
660  
cttcgccggg gcttttcaga atgggcggg gcctcggggg tcttcacccc caaggaagcc  
720  
tcttgatttt tggcacccgc tttgtttttg ggccggaagc cgttgtgcgg ctgtcttctg  
780  
tgttcgtggc ggctgttgcc ctttcccagt ggctcggctt cattcccact gccctgcgac  
840  
ttggcaggcc catttagcct gttgttatga tactgtggat taaatctccg tctttgggta  
900  
gaagatccat tctgcttggt ggccggcatg gtctggtgag aggggtcggc ggtgctgggg  
960  
agactgctca ccattttggg gtttgccgct ttgccttcag agggcttatt gtgagtggat  
1020  
gattttcggg aaaagttact ctgtttccca gaggttgctg cgtgcgcatt cagcagaggc  
1080  
agcagggagc tgcagggagt tcttgaggaa tagttgtctt ttggatgtgt aattttctccg  
1140  
cagagcatga tttgggcctt cagctgttcg atgtcacagg aaaaccgggc agctttcccg  
1200  
agctcctcgt catatttacg ctgcgtgaca aagtgcctaa tttctgccct gatttcggcc  
1260  
agctgcatct ctgccatctg actggcaagg tcagtgagtc tctttagttc ttctgctttc  
1320  
ttctgacgag cagtcaggat ttccatggct tcttctttaa ctttatccat ttctgccatt  
1380  
aatgaaaactt ctttgtcaat gatgcagttg tgtaattcag caaaggcagc tttgatcttc  
1440  
ttcaggaac tatccacttc ttccttaatc atgacgcgat atctagttag agaaacgggtg  
1500  
cagcgttgca aatccttcac tgattttctca atatttgggc ctcttttctt tgccaactca  
1560  
tctggcttta tttcaagatg agctgcaggg gtattggact taacaggaga tgtttttgcc  
1620  
ttaggcttgc ttgggttaca aggctgctca gctgaccact gtaggccatc tgacctctct  
1680  
gttgttccat gtataggttt ggggttccca tctaaggata gtttctgttg cagtagtctg  
1740  
ttgccttctg tgaccccacg aagtgccttt gaaggttcct caagtatcga gatctttttc  
1800  
tcacgagggg taagggtctg tttttcggtta gcagaatctg tggacgagct gtccttctcg  
1860  
cagccattca tggggccggt ttgaatctgt ggtggctgcg gctgcagggg ccctgcctca  
1920  
ggcctctcca ccttgctttt agcatctttg ttgccttgat gctgcttggg cttgcttctt  
1980

tttcttttat tgttcttctt ttttcctgtc atattccatt cttttagaac ttgaattgca  
 2040  
 ctgccatcca caaaggcttg cacggcttta tccacattaa aatcaaactg ttggagcacc  
 2100  
 aggactatct cattattgct tttgttggga acaactgac taactgcata gatcttttcc  
 2160  
 ttgacattca catgagtatt gagttcagcc atcttgcttc tagcggaata ggccctggga  
 2220  
 atccacagca atgttcctga aagcagcctg gtttctgaag agctctgaaa aatcaggcgc  
 2280  
 ggaaaaagtg ctggagctcg ggtcagccct tggaaaccg accaaccgg ggtgttccgc  
 2340  
 cgctctctct gc  
 2352

<210> 5078

<211> 558

<212> PRT

<213> Homo sapiens

<400> 5078

Met	Ala	Glu	Leu	Asn	Thr	His	Val	Asn	Val	Lys	Glu	Lys	Ile	Tyr	Ala
1			5					10					15		
Val	Arg	Ser	Val	Val	Pro	Asn	Lys	Ser	Asn	Asn	Glu	Ile	Val	Leu	Val
		20						25				30			
Leu	Gln	Gln	Phe	Asp	Phe	Asn	Val	Asp	Lys	Ala	Val	Gln	Ala	Phe	Val
	35					40					45				
Asp	Gly	Ser	Ala	Ile	Gln	Val	Leu	Lys	Glu	Trp	Asn	Met	Thr	Gly	Lys
	50				55					60					
Lys	Lys	Asn	Asn	Lys	Arg	Lys	Arg	Ser	Lys	Ser	Lys	Gln	His	Gln	Gly
65				70				75					80		
Asn	Lys	Asp	Ala	Lys	Asp	Lys	Val	Glu	Arg	Pro	Glu	Ala	Gly	Pro	Leu
		85						90					95		
Gln	Pro	Gln	Pro	Pro	Gln	Ile	Gln	Asn	Gly	Pro	Met	Asn	Gly	Cys	Glu
	100							105				110			
Lys	Asp	Ser	Ser	Ser	Thr	Asp	Ser	Ala	Asn	Glu	Lys	Pro	Ala	Leu	Ile
	115					120					125				
Pro	Arg	Glu	Lys	Lys	Ile	Ser	Ile	Leu	Glu	Glu	Pro	Ser	Lys	Ala	Leu
	130				135						140				
Arg	Gly	Val	Thr	Glu	Gly	Asn	Arg	Leu	Leu	Gln	Gln	Lys	Leu	Ser	Leu
145				150				155					160		
Asp	Gly	Asn	Pro	Lys	Pro	Ile	His	Gly	Thr	Thr	Glu	Arg	Ser	Asp	Gly
		165						170				175			
Leu	Gln	Trp	Ser	Ala	Glu	Gln	Pro	Cys	Asn	Pro	Ser	Lys	Pro	Lys	Ala
	180							185				190			
Lys	Thr	Ser	Pro	Val	Lys	Ser	Asn	Thr	Pro	Ala	Ala	His	Leu	Glu	Ile
	195						200				205				
Lys	Pro	Asp	Glu	Leu	Ala	Lys	Lys	Arg	Gly	Pro	Asn	Ile	Glu	Lys	Ser
	210					215				220					
Val	Lys	Asp	Leu	Gln	Arg	Cys	Thr	Val	Ser	Leu	Thr	Arg	Tyr	Arg	Val
225				230				235					240		
Met	Ile	Lys	Glu	Glu	Val	Asp	Ser	Ser	Val	Lys	Lys	Ile	Lys	Ala	Ala
			245					250				255			
Phe	Ala	Glu	Leu	His	Asn	Cys	Ile	Ile	Asp	Lys	Glu	Val	Ser	Leu	Met

260 265 270  
 Ala Glu Met Asp Lys Val Lys Glu Glu Ala Met Glu Ile Leu Thr Ala  
 275 280 285  
 Arg Gln Lys Lys Ala Glu Glu Leu Lys Arg Leu Thr Asp Leu Ala Ser  
 290 295 300  
 Gln Met Ala Glu Met Gln Leu Ala Glu Leu Arg Ala Glu Ile Lys His  
 305 310 315 320  
 Phe Val Ser Glu Arg Lys Tyr Asp Glu Glu Leu Gly Lys Ala Ala Arg  
 325 330 335  
 Phe Ser Cys Asp Ile Glu Gln Leu Lys Ala Gln Ile Met Leu Cys Gly  
 340 345 350  
 Glu Ile Thr His Pro Lys Asn Asn Tyr Ser Ser Arg Thr Pro Cys Ser  
 355 360 365  
 Ser Leu Leu Pro Leu Leu Asn Ala His Ala Ala Thr Ser Gly Lys Gln  
 370 375 380  
 Ser Asn Phe Ser Arg Lys Ser Ser Thr His Asn Lys Pro Ser Glu Gly  
 385 390 395 400  
 Lys Ala Ala Asn Pro Lys Met Val Ser Ser Leu Pro Ser Thr Ala Asp  
 405 410 415  
 Pro Ser His Gln Thr Met Pro Ala Asn Lys Gln Asn Gly Ser Ser Asn  
 420 425 430  
 Gln Arg Arg Arg Phe Asn Pro Gln Tyr His Asn Asn Arg Leu Asn Gly  
 435 440 445  
 Pro Ala Lys Ser Gln Gly Ser Gly Asn Glu Ala Glu Pro Leu Gly Lys  
 450 455 460  
 Gly Asn Ser Arg His Glu His Arg Arg Gln Pro His Asn Gly Phe Arg  
 465 470 475 480  
 Pro Lys Asn Lys Gly Gly Ala Lys Asn Gln Glu Ala Ser Leu Gly Met  
 485 490 495  
 Lys Thr Pro Glu Ala Pro Ala His Ser Glu Lys Pro Arg Arg Arg Gln  
 500 505 510  
 His Ala Ala Asp Thr Ser Glu Ala Arg Pro Phe Arg Gly Ser Val Gly  
 515 520 525  
 Arg Val Ser Gln Cys Asn Leu Cys Pro Thr Arg Ile Glu Val Ser Thr  
 530 535 540  
 Asp Ala Ala Val Leu Ser Val Pro Ala Val Thr Leu Val Ala  
 545 550 555

&lt;210&gt; 5079

&lt;211&gt; 1338

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5079

ggctccctc gttgccccag cctcgcgggc cgcctaactg ccccggtcca aggggtgccac  
 60  
 cggaccccg c tggagaggaa cttctccgtt ggctgatttc atcaccaccc attcccgatt  
 120  
 ccacgtttcc ttttaagcggg gctggcggag ccgcaaggcg gcaaggaact ggattgcgat  
 180  
 tggtcagcac gtgcctcggt cggcggtaca attggctgag gcgctgggcc ttgggaagca  
 240  
 ttccccgacg ggattggctg tcgctctcgc agagccccgc tccccagta caagcggccc  
 300

ccgggtcggg tgggaggagg ggactccggg aggaggaaca tggcggtggc ggacctcgct  
 360  
 ctcatctctg atgtggacat cgactccgac ggcgtcttca agtatgtgct gatccgagtc  
 420  
 cactcggttc cccgctccgg ggctccggct gcagagagca aggagatcgt gcgcggctac  
 480  
 aagtgggctg agtaccatgc ggacatctac gacaaagtgt cgggcgacat gcagaagcaa  
 540  
 ggctgcgact gtgagtgtct gggcggcggg cgcattctcc accagagtca ggacaagaag  
 600  
 attcacgtgt acggctattc catggtgagc cgcagccccg tcccgccctg ccggaggccc  
 660  
 cagtaccagc ttcgaggccc acctgagcct gctgccctga cccgtggccc cagctgagca  
 720  
 cgcaggcttc ctgggggttct cccagggctg gcggcagagc cctccctcca gggcccattg  
 780  
 tgttctctga tcccccatg gagcacacgc cagacctgag ggggtgggacg gacaccccca  
 840  
 ggcattggcg gctgtctcct ctccctgcct tgggaggcct tgcctgggctc tagctgtcct  
 900  
 ccagcacttt gggccctggg ccccagagg cagtcagtac ctgggtggag ctgagagtcc  
 960  
 ccacctgtgc tcttcacaaa aaccaccagc agatgagacc cacgtgcgtc cctctgggcg  
 1020  
 cctcaggccc caggatccac catcaaggcc tatggtcctg cccagcacgc catttcaact  
 1080  
 gagaaaatca aagccaagta ccccgactac gaggtcacct gggctaacga cggctactga  
 1140  
 gcactcccag cccggggcct gctgcctcca gcagccactt cagagccccc gcctttgcct  
 1200  
 gcactcctct tgcagggtg gccctgcctg ctctgcggc agcctctggt gacgtgctgt  
 1260  
 ccaccaggcc ttggagacag gctagcctgg ccacagaatt aaacgtgttg ccacaccaa  
 1320  
 aaaaaaaaaa aaaaaaaaa  
 1338

&lt;210&gt; 5080

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5080

Gly Ala Gly Pro Trp Glu Ala Phe Pro Asp Gly Ile Gly Arg Arg Ser  
 1 5 10 15  
 Arg Arg Ala Arg Leu Pro Gln Tyr Lys Arg Pro Pro Gly Arg Val Gly  
 20 25 30  
 Gly Gly Asp Ser Gly Arg Arg Asn Met Ala Val Ala Asp Leu Ala Leu  
 35 40 45  
 Ile Pro Asp Val Asp Ile Asp Ser Asp Gly Val Phe Lys Tyr Val Leu  
 50 55 60  
 Ile Arg Val His Ser Ala Pro Arg Ser Gly Ala Pro Ala Ala Glu Ser  
 65 70 75 80  
 Lys Glu Ile Val Arg Gly Tyr Lys Trp Ala Glu Tyr His Ala Asp Ile

[illegible]

```
<210> 5081
<211> 561
<212> DNA
<213> Homo sapiens
```

```

<400> 5081
nnccggccggc ctgggctcgg gggctccggg ctctgggctc tgggtgcgcg gaccgggccca
60
ggctgcttga agacctcgcg acctgtgtca gcagagccgc cctgcaccac catgtgcatc
120
atcttcttta agtttgatcc tcgccctggt tccaaaaacg cgtacaggta accccctcgc
180
tctgcattcg ctgcgccctg cagggtcctg ggtgccagc cagttctcat gccaccaag
240
ctgctgtgtg caggaagggt tgtggggccag gacggggctg cacaggcctg gcactgcctt
300
ccaggacagg gtcactcagt gtgggatgct gtcagaatgc ctctcggggc ggggactcca
360
gtcaatgtac aaagacgtga agactcagcc acagaaggca gccacaggct catcttggca
420
gccaacaggg atgaattcta cagccgacct tccaagttag ctgacttctg ggggaacaac
480
aacgagatcc tcagtgggct ggacatggag gaaggcaagg aaggaggcac atggctgggc
540
atcagcacac gtggcaagct g
561

```

```
<210> 5082
<211> 111
<212> PRT
<213> Homo sapiens
```

```

<400> 5082
Met Pro Pro Lys Leu Leu Cys Ala Gly Arg Cys Val Gly Gln Asp Gly
 1           5           10           15
Ala Ala Gln Ala Trp His Cys Pro Pro Gly Gln Gly His Ser Val Trp
          20           25           30
Asp Ala Val Arg Met Pro Leu Gly Ala Gly Thr Pro Val Asn Val Gln
          35           40           45
Arg Arg Glu Asp Ser Ala Thr Glu Gly Ser His Arg Leu Ile Leu Ala
 50           55           60
Ala Asn Arg Asp Glu Phe Tyr Ser Arg Pro Ser Lys Leu Ala Asp Phe

```

65		70		75		80									
Trp	Gly	Asn	Asn	Asn	Glu	Ile	Leu	Ser	Gly	Leu	Asp	Met	Glu	Glu	Gly
			85					90					95		
Lys	Glu	Gly	Gly	Thr	Trp	Leu	Gly	Ile	Ser	Thr	Arg	Gly	Lys	Leu	
		100						105					110		

&lt;210&gt; 5083

&lt;211&gt; 1856

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5083

```

nnggcacta ggcacgggac agagcagtcg gtgacaggac agagcagtcg gtgacgggac
60
acagtggttg gtgacgggac agagcggtcg gtgacagcct caagggcttc agcaccgcgc
120
ccatggcaga gccagaccga ctccagattca gactctgagg gaggagccgc tggaggagaa
180
gcagacatgg acttctctgc gaacttattc tcccagacgc tcagcctggg cagccagaag
240
gagcgtctgc tggacgagct gaccttgga ggggtggccc ggtacatgca gagcgaacgc
300
tgtcgagag tcatctgttt ggtgggagct ggaatctcca catccgcagg catccccgac
360
tttcgtcttc catccaccgg cctctatgac aacctagaga agtaccatct tccctaccca
420
gaggccatct ttgagatcag ctatttcaag aacatccgg aacccttctt cgcctcgcgc
480
aaggaactct atcctgggca gttcaagcca accatctgtc actacttcat gcgcctgctg
540
aaggacaagg ggctactcct gcgctgtac acgcagaaca tagataccct ggagcgaata
600
gccgggctgg aacaggagga cttgggtggag gcgcacggca ccttctacac atcacactgc
660
gtcagcgcca gctgccggca cgaatacccg ctaagctgga tgaaagagaa gatcttctct
720
gaggtgacgc ccaagtgtga agactgtcag agcctgggtga agcctgatat cgtctttttt
780
ggtgagagcc tcccagcgcg tttcttctcc tgtatgcagt cagacttctt gaaggtggac
840
ctcctcctgg tcatgggtac ctccctgcag gtgcagccct ttgcctcctt catcagcaag
900
gcacccctct ccacccctcg cctgctcatc aacaaggaga aagctggcca gtcggaccct
960
ttcctgggga tgattatggg cctcggagga ggcattggact ttgactccaa gaaggcctac
1020
agggacgtgg cctggctggg tgaatgcgac cagggtgcc tggcccttgc tgagctcctt
1080
ggatggaaga aggagctgga ggacctgtgc cggagggagc acgccagcat agatgccag
1140
tcgggggagg gggccccaa cccagcact tcagcttccc ccaagaagtc cccgccacct
1200
gccaaggacg aggccaggac aacagagagg gagaaacccc agtgacagct gcatctccca
1260

```



ggcgggatgt cgagctcctc agggacagct gagccccaac cgggcctggc cccctcttaa  
 1320  
 ccagcagttc ttgtctgggg agctcagaac atcccccaat ctcttacagc tccctcccca  
 1380  
 aaactgggggt cccagcaacc ctggccccc accccagcaa atctctaaca cctcctagag  
 1440  
 gccaaggctt aaacaggcat ctctaccagc cccactgtct ctaaccactc ctgggctaag  
 1500  
 gagtaacctc cctcatctct aactgcccc acggggccag ggctacccca gaacttttaa  
 1560  
 ctcttccagg acaggagct tcgggcccc actctgtctc ctgcccccg gggcctgtgg  
 1620  
 ctaagtaaac catacctaac ctacccaggt gtgggtgtgg gcctctgaat ataaccaca  
 1680  
 cccagcgtag ggggagtctg agccgggagg gctcccgagt ctctgccttc agtcccaaa  
 1740  
 gtgggtgttg ggcccccttc acgtgggacc cacttcccat gctggatggg cagaagacat  
 1800  
 tgcttattgg agacaaatta aaaacaaaa caactaaca aaaaaaaaa aaaaaa  
 1856

&lt;210&gt; 5084

&lt;211&gt; 396

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5084

Arg	Asp	Thr	Val	Val	Gly	Asp	Gly	Thr	Glu	Arg	Ser	Val	Thr	Ala	Ser
1				5					10					15	
Arg	Ala	Ser	Ala	Pro	Arg	Pro	Trp	Gln	Ser	Gln	Thr	Asp	Ser	Asp	Ser
			20					25					30		
Asp	Ser	Glu	Gly	Gly	Ala	Ala	Gly	Gly	Glu	Ala	Asp	Met	Asp	Phe	Leu
	35						40					45			
Arg	Asn	Leu	Phe	Ser	Gln	Thr	Leu	Ser	Leu	Gly	Ser	Gln	Lys	Glu	Arg
	50					55					60				
Leu	Leu	Asp	Glu	Leu	Thr	Leu	Glu	Gly	Val	Ala	Arg	Tyr	Met	Gln	Ser
65					70				75					80	
Glu	Arg	Cys	Arg	Arg	Val	Ile	Cys	Leu	Val	Gly	Ala	Gly	Ile	Ser	Thr
				85					90					95	
Ser	Ala	Gly	Ile	Pro	Asp	Phe	Arg	Ser	Pro	Ser	Thr	Gly	Leu	Tyr	Asp
	100							105					110		
Asn	Leu	Glu	Lys	Tyr	His	Leu	Pro	Tyr	Pro	Glu	Ala	Ile	Phe	Glu	Ile
	115						120					125			
Ser	Tyr	Phe	Lys	Lys	His	Pro	Glu	Pro	Phe	Phe	Ala	Leu	Ala	Lys	Glu
	130					135					140				
Leu	Tyr	Pro	Gly	Gln	Phe	Lys	Pro	Thr	Ile	Cys	His	Tyr	Phe	Met	Arg
145					150					155				160	
Leu	Leu	Lys	Asp	Lys	Gly	Leu	Leu	Leu	Arg	Cys	Tyr	Thr	Gln	Asn	Ile
				165					170					175	
Asp	Thr	Leu	Glu	Arg	Ile	Ala	Gly	Leu	Glu	Gln	Glu	Asp	Leu	Val	Glu
	180							185					190		
Ala	His	Gly	Thr	Phe	Tyr	Thr	Ser	His	Cys	Val	Ser	Ala	Ser	Cys	Arg
	195						200					205			
His	Glu	Tyr	Pro	Leu	Ser	Trp	Met	Lys	Glu	Lys	Ile	Phe	Ser	Glu	Val

210	215	220
Thr Pro Lys Cys Glu Asp Cys Gln Ser Leu Val Lys Pro Asp Ile Val		
225	230	235
Phe Phe Gly Glu Ser Leu Pro Ala Arg Phe Phe Ser Cys Met Gln Ser		240
	245	250
Asp Phe Leu Lys Val Asp Leu Leu Leu Val Met Gly Thr Ser Leu Gln		255
	260	265
Val Gln Pro Phe Ala Ser Leu Ile Ser Lys Ala Pro Leu Ser Thr Pro		270
	275	280
Arg Leu Leu Ile Asn Lys Glu Lys Ala Gly Gln Ser Asp Pro Phe Leu		285
	290	295
Gly Met Ile Met Gly Leu Gly Gly Gly Met Asp Phe Asp Ser Lys Lys		300
305	310	315
Ala Tyr Arg Asp Val Ala Trp Leu Gly Glu Cys Asp Gln Gly Cys Leu		320
	325	330
Ala Leu Ala Glu Leu Leu Gly Trp Lys Lys Glu Leu Glu Asp Leu Val		335
	340	345
Arg Arg Glu His Ala Ser Ile Asp Ala Gln Ser Gly Ala Gly Val Pro		350
	355	360
Asn Pro Ser Thr Ser Ala Ser Pro Lys Lys Ser Pro Pro Pro Ala Lys		365
	370	375
Asp Glu Ala Arg Thr Thr Glu Arg Glu Lys Pro Gln		380
385	390	395

&lt;210&gt; 5085

&lt;211&gt; 2964

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5085

nactgcccacat ccccggttgt cccactttttg ttcgcctctc ttcggccctc tactcaagag  
 60  
 ctccgtctcc gtctcgccct cctcgaagtc ctcgtcgcgc gcccgcgacc caggtcgccc  
 120  
 tgaaatctag cccgtccgag cgcgagtcga acggccgcgg ccgcaccaag gcccctcag  
 180  
 accgtgccat ggggtgacagt gatgacgagt acgatcgaag gcgcagggac aagttcagaa  
 240  
 gagagcgcag cgactacgac cgttcccgcg agagagatga aagacgtcga ggggacgatt  
 300  
 ggaatgacag agagtgggac cgtggccgtg agcgccgtag tcgggggtgaa tatcgggact  
 360  
 atgaccggaa tcggcgagag cgcttctcgc cacctcgcca cgaactcagc ccgccacaga  
 420  
 agcgcagtag gagagactgg gatgagcaca gctctgaccc ataccacagt ggctatgaga  
 480  
 tgccctatgc tgnngggggg tgggggcccactttatggcc cccctcagcc ctggggccac  
 540  
 cctgacgtcc acatcatgca gcacatgtc ctgcctatcc aggccaggct gggcagcatt  
 600  
 gcagagattg acctgggtgt gccgccgccc gtgatgaaga ccttcaagga gtttctcctc  
 660  
 tccctggatg actcggtgga tgagacggag gccgtcaagc gctataatga ctacaagctg  
 720

gatttccgga ggcaacagat gcaggatttc ttcttggcgc acaaagatga ggagtggttt  
780  
cggtctaagt accacccaga tgaggtgggg aagcgtcggc aggaggcccg gggggccctg  
840  
caaaaccgac tgaggggtctt cctgtccctc atggagactg gctggtttga taaccttctc  
900  
ctggacatag acaaagctga tgccattgtc aagatgctgg atgcagccgt gattaagatg  
960  
gaaggaggca cggagaatga tcttcgcatc ctggagcagg aggaggagga ggagcaggca  
1020  
ggaaagcctg gggagcccag caagaaagaa gaaggacggg ctggagcagg cctagggggac  
1080  
ggggagcgca aaaccaacga caaggatgag aagaaggaa acggcaagca ggctgagaat  
1140  
gacagttcta atgatgacaa aacaaagaag tcggaggggtg atggggacaa ggaagagaag  
1200  
aaagaagact ccgagaagga agccaaaaag agtagcaaga agcgggaaccg gaagcacagt  
1260  
ggtgacgaca gctttgacga gggcagcgtg tcagagtctg agtcggagtc agagagcggc  
1320  
caggctgagg aggagaagga ggaggccgaa gaagcgtca aggagaagga gaagcccaag  
1380  
gaagaagaat gggagaagcc caaggacgcc gcggggctgg agtgcaagcc gcggccgctg  
1440  
cataagacct gctccctctt catgcgcaac atcgcgcca acatctcccg ggccgagatc  
1500  
atctcccttt gtaaaaggta cccaggcttt atgcgggtgg cgctctcaga gccccagcca  
1560  
gagaggaggt ttttccgtcg tggctgggtg accttcgacc gcagtgttaa cattaaagag  
1620  
atctgttga acctgcagaa catccgtctc cgggagtggt agctgagccc tgggtgtgaac  
1680  
agggacctga cccggcgcgt tcgcaacatc aacggcatca cccagcacia gcagattgtg  
1740  
cgcaacgaca tcaagctggc ggccaagctg atccacacgc tggatgacag gacacagctt  
1800  
tgggcctcag aaccaggagc gcctcccctg cccacgagcc tgcctctgca aaaccgcatc  
1860  
ttgaagaata tcaccgacta cctgatcgag gaagtaagcg ccgaggagga ggagtgtgtg  
1920  
gggagcagcg ggggcgctcc tcctgaggag cctcctaagg aagggaaccc ggcagagatc  
1980  
aacgtggagc gggatgagaa gttgattaag gtcttgaca agctcctctt ttacctgcgc  
2040  
atcgtgcatt ccttgatta ttacaacacc tgtgagtacc ccaacgagga cgagatgccc  
2100  
aatcgctgtg ggatcatcca cgctcggggg cccatgccac ccaaccgcat cagtcacggg  
2160  
gaagtgtgtg agtggcagaa gacttttgag gagaagctca cgccgttgct gagtgtgcgg  
2220  
gagtcactct cagaggaaga ggcccagaag atggggcgca aagaccaga gcaggaagtg  
2280  
gagaagttcg tcacctcaa cacgcaggaa ctgggcaagg ataagtggct gtgtcctctc  
2340

agtggcaaga aattcaaggg tcttgagttt gtgcgcaaac atatcttcaa caagcatgca  
 2400  
 gagaaaattg aggaagtga aaaggaagtc gcgtttttta acaacttcct cactgatgct  
 2460  
 aagcgccag ctctgcctga gatcaagcca gccagccac ctggccccgc ccagatactc  
 2520  
 cccccaggtt tgaccccagg actcccctac ccacaccaga ctccccaggg cctgatgccc  
 2580  
 tatggtcagc cccggcccc gatcttgggc tatggagctg gtgctgtccg ccctgcagtc  
 2640  
 cccacaggag gccctccata ccccatgcc ccgtatggtg ctggctcagg gaactatgat  
 2700  
 gccttcagag gccagggagg ttatcctggg aaacctcgca acaggatggt tcgtggagac  
 2760  
 ccaaggcca ttgtggaata tcgggacctg gatgccccag acgatgttga tttcttttga  
 2820  
 gccgtcccc gttctcagt cctgtatcat ccatacttgt actaccttgt cctatgaagc  
 2880  
 tctgagaatt tttgtacga tcagccttac tgctaataaa agcacttcca cagggaaaaa  
 2940  
 aaaaaaaaa aaaaaaagtc gacg  
 2964

&lt;210&gt; 5086

&lt;211&gt; 792

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5086

Met	Ser	Thr	Ala	Leu	Thr	His	Thr	Thr	Val	Ala	Met	Arg	Cys	Pro	Met
1				5					10					15	
Leu	Xaa	Gly	Gly	Gly	Gly	Pro	Thr	Tyr	Gly	Pro	Pro	Gln	Pro	Trp	Gly
			20					25					30		
His	Pro	Asp	Val	His	Ile	Met	Gln	His	His	Val	Leu	Pro	Ile	Gln	Ala
			35			40						45			
Arg	Leu	Gly	Ser	Ile	Ala	Glu	Ile	Asp	Leu	Gly	Val	Pro	Pro	Pro	Val
	50					55					60				
Met	Lys	Thr	Phe	Lys	Glu	Phe	Leu	Leu	Ser	Leu	Asp	Asp	Ser	Val	Asp
65					70					75				80	
Glu	Thr	Glu	Ala	Val	Lys	Arg	Tyr	Asn	Asp	Tyr	Lys	Leu	Asp	Phe	Arg
				85					90					95	
Arg	Gln	Gln	Met	Gln	Asp	Phe	Phe	Leu	Ala	His	Lys	Asp	Glu	Glu	Trp
			100					105					110		
Phe	Arg	Ser	Lys	Tyr	His	Pro	Asp	Glu	Val	Gly	Lys	Arg	Arg	Gln	Glu
			115				120					125			
Ala	Arg	Gly	Ala	Leu	Gln	Asn	Arg	Leu	Arg	Val	Phe	Leu	Ser	Leu	Met
			130				135					140			
Glu	Thr	Gly	Trp	Phe	Asp	Asn	Leu	Leu	Leu	Asp	Ile	Asp	Lys	Ala	Asp
145					150					155				160	
Ala	Ile	Val	Lys	Met	Leu	Asp	Ala	Ala	Val	Ile	Lys	Met	Glu	Gly	Gly
			165						170					175	
Thr	Glu	Asn	Asp	Leu	Arg	Ile	Leu	Glu	Gln	Glu	Glu	Glu	Glu	Glu	Gln
			180					185					190		
Ala	Gly	Lys	Pro	Gly	Glu	Pro	Ser	Lys	Lys	Glu	Glu	Gly	Arg	Ala	Gly

195	200	205
Ala Gly Leu Gly Asp Gly Glu Arg Lys Thr Asn Asp Lys Asp Glu Lys		
210	215	220
Lys Glu Asp Gly Lys Gln Ala Glu Asn Asp Ser Ser Asn Asp Asp Lys		
225	230	235
Thr Lys Lys Ser Glu Gly Asp Gly Asp Lys Glu Glu Lys Lys Glu Asp		
245	250	255
Ser Glu Lys Glu Ala Lys Lys Ser Ser Lys Lys Arg Asn Arg Lys His		
260	265	270
Ser Gly Asp Asp Ser Phe Asp Glu Gly Ser Val Ser Glu Ser Glu Ser		
275	280	285
Glu Ser Glu Ser Gly Gln Ala Glu Glu Glu Lys Glu Glu Ala Glu Glu		
290	295	300
Ala Leu Lys Glu Lys Glu Lys Pro Lys Glu Glu Glu Trp Glu Lys Pro		
305	310	315
Lys Asp Ala Ala Gly Leu Glu Cys Lys Pro Arg Pro Leu His Lys Thr		
325	330	335
Cys Ser Leu Phe Met Arg Asn Ile Ala Pro Asn Ile Ser Arg Ala Glu		
340	345	350
Ile Ile Ser Leu Cys Lys Arg Tyr Pro Gly Phe Met Arg Val Ala Leu		
355	360	365
Ser Glu Pro Gln Pro Glu Arg Arg Phe Phe Arg Arg Gly Trp Val Thr		
370	375	380
Phe Asp Arg Ser Val Asn Ile Lys Glu Ile Cys Trp Asn Leu Gln Asn		
385	390	395
Ile Arg Leu Arg Glu Cys Glu Leu Ser Pro Gly Val Asn Arg Asp Leu		
405	410	415
Thr Arg Arg Val Arg Asn Ile Asn Gly Ile Thr Gln His Lys Gln Ile		
420	425	430
Val Arg Asn Asp Ile Lys Leu Ala Ala Lys Leu Ile His Thr Leu Asp		
435	440	445
Asp Arg Thr Gln Leu Trp Ala Ser Glu Pro Gly Thr Pro Pro Leu Pro		
450	455	460
Thr Ser Leu Pro Ser Gln Asn Pro Ile Leu Lys Asn Ile Thr Asp Tyr		
465	470	475
Leu Ile Glu Glu Val Ser Ala Glu Glu Glu Glu Leu Leu Gly Ser Ser		
485	490	495
Gly Gly Ala Pro Pro Glu Glu Pro Pro Lys Glu Gly Asn Pro Ala Glu		
500	505	510
Ile Asn Val Glu Arg Asp Glu Lys Leu Ile Lys Val Leu Asp Lys Leu		
515	520	525
Leu Leu Tyr Leu Arg Ile Val His Ser Leu Asp Tyr Tyr Asn Thr Cys		
530	535	540
Glu Tyr Pro Asn Glu Asp Glu Met Pro Asn Arg Cys Gly Ile Ile His		
545	550	555
Val Arg Gly Pro Met Pro Pro Asn Arg Ile Ser His Gly Glu Val Leu		
565	570	575
Glu Trp Gln Lys Thr Phe Glu Glu Lys Leu Thr Pro Leu Leu Ser Val		
580	585	590
Arg Glu Ser Leu Ser Glu Glu Glu Ala Gln Lys Met Gly Arg Lys Asp		
595	600	605
Pro Glu Gln Glu Val Glu Lys Phe Val Thr Ser Asn Thr Gln Glu Leu		
610	615	620
Gly Lys Asp Lys Trp Leu Cys Pro Leu Ser Gly Lys Lys Phe Lys Gly		

625                      630                      635                      640  
 Pro Glu Phe Val Arg Lys His Ile Phe Asn Lys His Ala Glu Lys Ile  
                                  645                      650                      655  
 Glu Glu Val Lys Lys Glu Val Ala Phe Phe Asn Asn Phe Leu Thr Asp  
                                  660                      665                      670  
 Ala Lys Arg Pro Ala Leu Pro Glu Ile Lys Pro Ala Gln Pro Pro Gly  
                                  675                      680                      685  
 Pro Ala Gln Ile Leu Pro Pro Gly Leu Thr Pro Gly Leu Pro Tyr Pro  
                                  690                      695                      700  
 His Gln Thr Pro Gln Gly Leu Met Pro Tyr Gly Gln Pro Arg Pro Pro  
 705                      710                      715                      720  
 Ile Leu Gly Tyr Gly Ala Gly Ala Val Arg Pro Ala Val Pro Thr Gly  
                                  725                      730                      735  
 Gly Pro Pro Tyr Pro His Ala Pro Tyr Gly Ala Gly Arg Gly Asn Tyr  
                                  740                      745                      750  
 Asp Ala Phe Arg Gly Gln Gly Gly Tyr Pro Gly Lys Pro Arg Asn Arg  
                                  755                      760                      765  
 Met Val Arg Gly Asp Pro Arg Ala Ile Val Glu Tyr Arg Asp Leu Asp  
                                  770                      775                      780  
 Ala Pro Asp Asp Val Asp Phe Phe  
 785                      790

<210> 5087

<211> 4949

<212> DNA

<213> Homo sapiens

<400> 5087

gcctaactgc cccgttccaa ggggtgccacc ggaccccgct ggagaggaac ttctccgttg  
 60  
 gctgatttca tcaccacca ttcccgatcc cacttttctt ttaagcgggt ctggcggacg  
 120  
 caaggcgtca aggaactgga ttgcgattgg tcagcacgtg cctcggtcgg cgggtacaatt  
 180  
 ggctgaggcg ctgggccttg ggaagcattc cccgacggga ttggtcgctg ctctcgaga  
 240  
 gcccgcctcc cgcagtacaa gcggcccccg ggtcgggtgg gaggagggga ctccgggagg  
 300  
 aggaacatgg cggtggcgga cctcgtcttc attctgatg tggacatcga ctccgacggc  
 360  
 gtcttcaagt atgtgctgat ccgagtcac tcggctcccc gctccggggc tccggtgca  
 420  
 gagagcaagg agatcgtgcg cggctacaag tgggctgagt accatgcgga catctacgac  
 480  
 aaagtgtcgg gcgacatgca gaagcaaggc tgcgactgtg agtgtctggg cggcgggcgc  
 540  
 atctcccacc agagtcagga caagaagatt cactgttacg gctattccat ggcctatggt  
 600  
 cctgcccagc acgccatttc aactgagaaa atcaaagcca agtaccgccga ctacgaggtc  
 660  
 acctgggcta acgacggcta ctgagcactc ccagcccggg gcctgctgcc tccagcagcc  
 720  
 acttcagagc cccgccttt gcctgcactc ctcttgagg gctggccctg cctgctcctg  
 780

cggcagcctc tgggtgacgtg ctgtccacca ggccttggag acaggctagc ctggccacag  
840  
aattaaacgt gttgccacac ctgccggctt ctgaactctg tccttggctt cctgcaccct  
900  
gcgtcaccac ctccgggggc cccagaccc taactaaagc agggaccctg tatctggcac  
960  
cggacagcac ctggctgctc aggaagaatg aatgacggcg tgatcctcca cagcctgact  
1020  
taaaggcacc ctgtgtggcc gcaactgtcc ctctggccca accatgcctc tgtccagcca  
1080  
cctgtgccc gccttggctc tgttcctggg agccctggcc aggcctgtg caacttcgtg  
1140  
tgtgactgca gggactgctc agatgaggcc cagtgtggtt accacggggc ctgccccacc  
1200  
ctgggcgccc ccttcgcctg tgacttcgag caggaccct gcggctggcg ggacattagt  
1260  
acctcaggct acagctggct ccgagacagg gcaggggccc cactggaggg tcctgggctt  
1320  
cactcagacc acacactggg caccgacttg ggtgaggcca gggcaagtct ctgtgcgccc  
1380  
ctgtcccaat accctccttg ctccctgccc cgtctcctga cctctcacct gcgccaggct  
1440  
ggtacatggc cgttggaaacc caccgaggga aagaggcatc caccgcagcc ctgcgctcgc  
1500  
caaccctgcg agaggcagcc tcctcttgca agctgaggct ctggtaccac gcggcctctg  
1560  
gaggtgcacc ctggaccccc aaggctcgtg ggggggtgccc aaggggaggg cgggtgggca  
1620  
gctggggaca agcaggggccc cagctgccct gggacccctg acattgcaga tgtggctgaa  
1680  
ctgcgggtgg agctgacca tggcgcagag accctgacct tgtggcagag cacagggccc  
1740  
tggnggccct ggnnctggca ggagtggca gtgaccacag gccgcattcc gggtgacttc  
1800  
cgagtgcct tetctgccac ccgaaatgcc acccacaggg gcgctgtggc tctagatgac  
1860  
ctagagttct gggactgtgg tctgcccacc cccagggca actgtcccc gggacaccac  
1920  
cactgccaga acaaggctctg cgtggagccc cagcagctgt gcgacgggga agacaactgc  
1980  
ggggacctgt ctgatgagaa cccactcacc tgtggccgccc acatagccac cgactttgag  
2040  
acaggcctgg gcccattgaa ccgctcgga ggctggctccc ggaaccaccg tgctggtggt  
2100  
cctgagcgcc cctcctggcc acgcccgtgac cacagccgga acagtgcann caggctggtc  
2160  
ttctatcagt acctgagtgg gtctgaggct ggctgcctcc agctgttctt gcagactctg  
2220  
gggccccggc cccccgggc cccgctctg ctgaggaggc gccgagggga gctggggacc  
2280  
gcctgggtcc gagaccgtgt tgacatccag agcgctacc ccttcagat cctcctggcc  
2340  
gggcagacag gcccgggggg cgtcgtgggt ctggacgacc tcctcctgtc tgaccactgc  
2400

agaccagtct cggaggtgtc caccctgcag ccgctgcctc ctgggccccg ggccccagcc  
2460  
ccccagcccc tgccgcccag ctcgcggtc caggattcct gcaagcaggg gcatcttgcc  
2520  
tgcggggacc tgtgtgtgcc cccggaacaa ctgtgtgact tcgaggagca gtgcgaggg  
2580  
ggcgaggacg agcaggcctg tggcaccaca gactttgagt ccccgaggc tgggggctgg  
2640  
gaggacgcca gcgtggggcg gctgcagtgg cggcgtgtct cagcccagga gagccagggg  
2700  
tccagtgcag ctgctgctgg gcacttcctg tctctgcagc gggcctgggg gcagctaggc  
2760  
gctgaggccc gggtcctcac acccctcctt ggcccttctg gcccagctg tgaactccac  
2820  
ctggcttatt atttacagag ccagccccga gctggatttg tcggtttggt ggacttggat  
2880  
ggccctgacc agcagnngag ctgggggtga caacgtgacc ctgagggact gtagccccac  
2940  
agtgaccacc gagagagaca gaggttcctg ctgcccaccc tcaactccac ctgggtgctc  
3000  
cccttacact cctccaggga ccccgagct tccaccttct cagggtctctg gagggggagg  
3060  
ggagaagggtg tgtgacgcca cctggcccca ccccagagg tctcctgtaa ctttgagcgg  
3120  
gacacatgca gctggtaccc aggccacctc tcagacacac actggcgctg ggtggagagc  
3180  
cgcgccctg accacgacca caccacaggc caaggccact ttgtgctcct ggacccaca  
3240  
gacccctgg cctggggcca cagtgccac ctgctctcca ggccccaggt gccagcagca  
3300  
cccacggagt gtctcagctt ctggtaccac ctccatgggc cccagattgg gactctgcgc  
3360  
ctagccatga gacgggaagg ggaggagaca cacctgtggt cgcggtcagg caccagggc  
3420  
aacgctggc acgaggcctg ggccaccctt tcccaccagc ctggctccca tgcccagtac  
3480  
cagctgctgt tcgagggcct cggggacgga taccacggca ccatggcgct ggacgatgtg  
3540  
gccgtgcggc cgggcccctg ctggggccct aattactgct cctttgagga ctcagactgc  
3600  
ggcttctccc ctggaggcca aggtctctgg aggcggcagg ccaatgcctc gggccatgct  
3660  
gcctggggcc ccccaacaga ccataccact gagacagccc aagggcacta catggtggtg  
3720  
gacacaagcc cagacgcact acccggggc cagacggcct ccctgacctc caaggagcac  
3780  
aggccccctg cccagcctgc ttgtctgacc ttctggtacc acgggagcct ccgcagccca  
3840  
ggcaccctgc gggctctacct ggaggagcgc gggaggcacc aggtgctcag cctcagtgcc  
3900  
cacggcgggc ttgcctggcg cctgggcagc atggacgtgc aggccgagcg agcctggagg  
3960  
ngttcctgtg attttgagtc tggcctgtgt ggctggagcc acctggccgg gcccgccctg  
4020



ggcgataca gctgggactg gggcggggga gccacccct ctcgttaccc ccagccccct  
 4080  
 gtggaccaca ccctgggcac agaggcaggc cactttgcct tctttgaaac tggcgtgctg  
 4140  
 ggccccgggg gccgggcccgc ctggctgcgc agcgagcctc tgccggccac ccagcctcc  
 4200  
 tgcctccgct tctggtacca catgggtttt cctgagcact tctacaaggg ggagctgaag  
 4260  
 gtactgctgc acagtgtca gggccagctg gctgtgtggg gcgcaggcgg gcatcggcgg  
 4320  
 caccagtggc tggaggccca ggtggaggta gccagtgcc aggagtcca gatcgtgttt  
 4380  
 gaagccactc tgggcggcca gccagccctg gggcccattg ccctggatga cgtggagtat  
 4440  
 ctggctgggc agcattgcc gacgcctgcc cccagcccgg ggaacacagc cgccccggg  
 4500  
 tctgtgccag ctgtggttg cagtgcctc ctattgtca tgctcctggt gctgctggga  
 4560  
 ctggggggac ggcgctggct gcagaagaag gggagctgcc ccttcagag caacacagag  
 4620  
 gccacagccc ctggctttga caacatcctt ttcaatgcgg atggtgtcac cctcccggca  
 4680  
 tctgtcacca gtgatccgta gaccaccca gacaaggccc cgcttcctca cgtgacatcc  
 4740  
 agcacttggc cagaccctag ccagggaccg gacacctgcc ccgcccaggc tgggacaggc  
 4800  
 tgcaggtctc aggatatgct gaggcctggg cgttccctgc cctgtgctga ctctgttgct  
 4860  
 ctgtgaataa acaccctggc ccatgagggc agccccaaaa aaaaaaaaaa aaaaaaaaaa  
 4920  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 4949

&lt;210&gt; 5088

&lt;211&gt; 465

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5088

Gly	Ser	Gly	Thr	Thr	Arg	Pro	Leu	Glu	Val	His	Pro	Gly	Pro	Pro	Arg
1				5					10				15		
Leu	Val	Gly	Gly	Ala	Gln	Gly	Glu	Gly	Gly	Trp	Ala	Ala	Gly	Asp	Lys
		20					25					30			
Gln	Gly	Arg	Ser	Cys	Pro	Gly	Thr	Pro	Asp	Ile	Ala	Asp	Val	Ala	Glu
		35					40					45			
Leu	Arg	Val	Glu	Leu	Thr	His	Gly	Ala	Glu	Thr	Leu	Thr	Leu	Trp	Gln
		50				55					60				
Ser	Thr	Gly	Pro	Trp	Xaa	Pro	Trp	Xaa	Trp	Gln	Glu	Leu	Ala	Val	Thr
65				70					75					80	
Thr	Gly	Arg	Ile	Arg	Gly	Asp	Phe	Arg	Val	Thr	Phe	Ser	Ala	Thr	Arg
			85					90						95	
Asn	Ala	Thr	His	Arg	Gly	Ala	Val	Ala	Leu	Asp	Asp	Leu	Glu	Phe	Trp
			100					105					110		
Asp	Cys	Gly	Leu	Pro	Thr	Pro	Gln	Ala	Asn	Cys	Pro	Pro	Gly	His	His

```

      115              120              125
His Cys Gln Asn Lys Val Cys Val Glu Pro Gln Gln Leu Cys Asp Gly
      130              135              140
Glu Asp Asn Cys Gly Asp Leu Ser Asp Glu Asn Pro Leu Thr Cys Gly
      145              150              155              160
Arg His Ile Ala Thr Asp Phe Glu Thr Gly Leu Gly Pro Trp Asn Arg
      165              170              175
Ser Glu Gly Trp Ser Arg Asn His Arg Ala Gly Gly Pro Glu Arg Pro
      180              185              190
Ser Trp Pro Arg Arg Asp His Ser Arg Asn Ser Ala Xaa Arg Leu Val
      195              200              205
Phe Tyr Gln Tyr Leu Ser Gly Ser Glu Ala Gly Cys Leu Gln Leu Phe
      210              215              220
Leu Gln Thr Leu Gly Pro Gly Ala Pro Arg Ala Pro Val Leu Leu Arg
      225              230              235              240
Arg Arg Arg Gly Glu Leu Gly Thr Ala Trp Val Arg Asp Arg Val Asp
      245              250              255
Ile Gln Ser Ala Tyr Pro Phe Gln Ile Leu Leu Ala Gly Gln Thr Gly
      260              265              270
Pro Gly Gly Val Val Gly Leu Asp Asp Leu Ile Leu Ser Asp His Cys
      275              280              285
Arg Pro Val Ser Glu Val Ser Thr Leu Gln Pro Leu Pro Pro Gly Pro
      290              295              300
Arg Ala Pro Ala Pro Gln Pro Leu Pro Pro Ser Ser Arg Leu Gln Asp
      305              310              315              320
Ser Cys Lys Gln Gly His Leu Ala Cys Gly Asp Leu Cys Val Pro Pro
      325              330              335
Glu Gln Leu Cys Asp Phe Glu Glu Gln Cys Ala Gly Gly Glu Asp Glu
      340              345              350
Gln Ala Cys Gly Thr Thr Asp Phe Glu Ser Pro Glu Ala Gly Gly Trp
      355              360              365
Glu Asp Ala Ser Val Gly Arg Leu Gln Trp Arg Arg Val Ser Ala Gln
      370              375              380
Glu Ser Gln Gly Ser Ser Ala Ala Ala Ala Gly His Phe Leu Ser Leu
      385              390              395              400
Gln Arg Ala Trp Gly Gln Leu Gly Ala Glu Ala Arg Val Leu Thr Pro
      405              410              415
Leu Leu Gly Pro Ser Gly Pro Ser Cys Glu Leu His Leu Ala Tyr Tyr
      420              425              430
Leu Gln Ser Gln Pro Arg Ala Gly Phe Val Gly Leu Val Asp Leu Asp
      435              440              445
Gly Pro Asp Gln Gln Xaa Ser Trp Gly Gly Gln Arg Asp Pro Glu Gly
      450              455              460
Leu
465

```

&lt;210&gt; 5089

&lt;211&gt; 793

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5089

nctgaccaca tctccgacga tccccacacc ttcaaccacc agaacttgac ccactgttcc  
60

cgccatggct cagggcctaa catcatcctc acaggggact cctctccagg tttctctaag  
 120  
 gagattgcag cagccctggc cggagtgcct ggctttgagg tgtcagcagc tggattggag  
 180  
 ctagggcttg ggctagaaga tgagctgcgc atggagccac tgggcctgga agggctaaac  
 240  
 atgctgagtg acccctgtgc cctgctgcct gatcctgctg tggaggagtc attccgcagt  
 300  
 gaccggctcc aatgagggca cctcatcacc atccctcttc ttggcccat cccccaccac  
 360  
 cattcctttc ctcccttccc cctggcaggt agagactcta ctctctgtcc ccagatcctc  
 420  
 tttctagcat gaatgaagga tgccaagaat gagaaaaagc aaggggtttg tccaggtggc  
 480  
 ccctgaattc tgcgcaaggg atgggcctgg gggaaactcaa gggagggcct aaagcacttg  
 540  
 taactttgaa ccgtctgtct ggaggtcaga gcctgttgga aagcaggggt agagggggagc  
 600  
 cctggaagca gggcttttcc ggatgcctag ggggtgggcag tgccagcccc tcctcaccac  
 660  
 ttttcccctt gcagtggagg agagagccag agtggatact attttttatt aaatatatta  
 720  
 ttatatgtta ataaaaaaaa catatcaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 780  
 aaaaaaaaaa aaa  
 793

<210> 5090

<211> 104

<212> PRT

<213> Homo sapiens

<400> 5090

Xaa	Asp	His	Ile	Ser	Asp	Asp	Pro	His	Thr	Phe	Asn	His	Gln	Asn	Leu
1			5						10					15	
Thr	His	Cys	Ser	Arg	His	Gly	Ser	Gly	Pro	Asn	Ile	Ile	Leu	Thr	Gly
		20					25						30		
Asp	Ser	Ser	Pro	Gly	Phe	Ser	Lys	Glu	Ile	Ala	Ala	Ala	Leu	Ala	Gly
		35					40					45			
Val	Pro	Gly	Phe	Glu	Val	Ser	Ala	Ala	Gly	Leu	Glu	Leu	Gly	Leu	Gly
		50				55					60				
Leu	Glu	Asp	Glu	Leu	Arg	Met	Glu	Pro	Leu	Gly	Leu	Glu	Gly	Leu	Asn
65				70					75					80	
Met	Leu	Ser	Asp	Pro	Cys	Ala	Leu	Leu	Pro	Asp	Pro	Ala	Val	Glu	Glu
			85					90						95	
Ser	Phe	Arg	Ser	Asp	Arg	Leu	Gln								
			100												

<210> 5091

<211> 3150

<212> DNA

<213> Homo sapiens

<400> 5091

ggactcaggt cctcggggat accatcccc gacctcacct tccacctacc gcagcctgct  
60  
agcctttccg ggagaaaagg catccttacc tctgggtgaa ggtctcgggg cctccccctc  
120  
tgcacccgga ccctctcccc atcccagcct cccatgccaa ggcccgcctt gtcagtcact  
180  
tccttttgtc atcggcttgg caaacgggag agaaaacaga gcttcatggg aaacagcggc  
240  
aacagttggg cccatacacc tttccccaag ttggagctag gcctggggcc ccagcccatg  
300  
gcgccccggg agctccctac ctgctccatc tgcttgaga ggttgcgga cccatctcg  
360  
ctggactgtg gccacgactt ctgcatacgg tgcttcagca cacaccgtct ccggggctgt  
420  
gagccgcct gctgtcctga gtgccggaag atatgcaagc agaagagggg cctccggagc  
480  
ctgggcgaga agatgaagct cctgccgcag cggccgctgc cccctgcact gcaggagacg  
540  
tgtcctgtga gggcggagcc gctgctgctg gttcgcatca atgcctctgg gggcctcatc  
600  
cttaggatgg gggccatcaa ccgctgcctg aagcaccctc tggccaggga cccccagtc  
660  
tgcctcctcg ctgtcctggg ggagcagcac tcagggaagt ccttcctcct caaccatttg  
720  
cttcagggt tgccgggcct ggagtctggt gagggcgcc ggccaagagg aggagaggca  
780  
tccctgcagg gctgcagggt gggcgccaat ggcctcgccg ggggcatatg gatgtggagc  
840  
caccccttct tgctggggaa agaagggaag aaggtggcgg tgttcctggt ggacacaggg  
900  
gatgccatga gccctgagct gagcaggga acaaggatca agctctgtgc tctcaccacg  
960  
atgctgagct cctaccagat cctcagcacc tcccaggagc tgaaggatac agacctggac  
1020  
tatctggaga tgtttgtcca cgtggccgag gtgatgggca agcattatgg gatggtgcca  
1080  
atccagcatc tggacctctt agttcgtgac tcatcccacc ccaacaaggc agggcagggg  
1140  
catgtaggca acatcttcca gagattgtct ggcagatacc ccaagggtgca ggagctgctg  
1200  
caagggaagc gagcccgttg ctgcctcttg cctgccccag ggaggcgccg gatgaaccaa  
1260  
ggccatgcaa gccctggttg tgacacagat gatgacttcc gccaccttct gggggcctac  
1320  
gtctcagatg tgctgagtgc ggccccccag cacgctaaga gccgctgcca ggggtactgg  
1380  
aacgaggggc gcgccgtggc caggggggac agacgcctac tcacggggca gcagctagct  
1440  
caggaaatca agaacctctc aggatggatg gggaggacag ggcccggttt cacctctccg  
1500  
gatgagatgg ctgctcagct gcacgacctg aggaagggtg aagctgccaa gagggagttc  
1560  
gaggagtatg tgaggcagca ggacgtagcc accaagcgca tattctctgc gctgcgggtc  
1620

ctgccagaca ccatgcggaa cctcctctcc acccagaaag atgccattct ggcccggcat  
1680  
ggtgtggcct tactctgcaa ggggagagat cagaccttgg aggcactgga agctgagctg  
1740  
caggccacgg ccaaggcctt catggactcc tacacgatgc gcttctgtgg ccacctagct  
1800  
gctgtggggg gtgctgtggg ggccgggctc atgggcctgg cagggggcgt ggtgggtgct  
1860  
ggcatggcag cagctgcact ggctgcagag gctgggatgg tggctgctgg agctgccgtg  
1920  
ggggccacag gggccgctgt ggttgggggt ggctgggtg ctgggttggc tgccacagtg  
1980  
ggctgcatgg agaaggagga ggatgagagg cttctggaag gggaccgaga gccccttctc  
2040  
caggaagagt aacagcccca ggaggtattg aaggacagga gagatgtcag gtggggatga  
2100  
agaagagggg caggtcgggg gaggggtgat ccagggatcc caaggcaccg ccatgtactg  
2160  
cactgccctg gtcgaatgct cgggtgtctg gtggcagctg agctgggact caaggtggct  
2220  
cttggaaact gggaggcagc atctgggggc agtggataga acaccggcc tgtttctggt  
2280  
tgcagatggt tgccgatctg cccttgtcac agataggcta catcccaggg tttctggctg  
2340  
caagtgagac tccaccctcc ccactggct catttccccg atgaccctgg attgtaggaa  
2400  
agttaagcag gcaccatcct ggaagtctac ccctaggtgg tcgagagacc tgttctttca  
2460  
cagatgtgag aagccccagg atgattgacc atgggtgttca ggagcgggga gcactgatga  
2520  
ggtgtgggg atgacaggaa ggaaggaaca ctgggcagaa ccagagagat gggacatggt  
2580  
agactgtggc ccagacccca gagcagagaa acttggtccc atgacccttc ccaaactctg  
2640  
tccagcagga ctaaggtggc tttcccactc ctggcccaca gcccagaga gcctgtctgt  
2700  
gcatcctgaa ccactctttg ctgggcctcc gcaagggcct ctcttgggtc tgtgtcctt  
2760  
ttcaagcctg tttagatggg ggagtggcca tgccctctgt gaagtggcca aatgcgaaag  
2820  
aataacacct tttcttgcct tctgagctaa gccagacagc ctttatacta gattctatca  
2880  
aaatcttgca aaggaaaaca aaatgaacaa cttctaccct taaacacatc ctttctcccc  
2940  
tgggcttgta agaagatgca gcttgatgca gtcctcaaa caccaggccc cctgggaact  
3000  
gggggtgctg gagttctccc tctgggggac agaaaatctg actactagga agacttctag  
3060  
gctatgaaac tgacttctag gctatgaaac ttacagggtg tgggtgggca cattatcctt  
3120  
tattttatga aaaataaaat gtgtgtatgt  
3150

&lt;210&gt; 5092

&lt;211&gt; 632

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5092

```

Met Pro Arg Pro Ala Leu Ser Val Thr Ser Phe Cys His Arg Leu Gly
 1           5           10           15
Lys Arg Glu Arg Lys Gln Ser Phe Met Gly Asn Ser Gly Asn Ser Trp
      20           25           30
Ser His Thr Pro Phe Pro Lys Leu Glu Leu Gly Leu Gly Pro Gln Pro
      35           40           45
Met Ala Pro Arg Glu Leu Pro Thr Cys Ser Ile Cys Leu Glu Arg Leu
      50           55           60
Arg Asp Pro Ile Ser Leu Asp Cys Gly His Asp Phe Cys Ile Arg Cys
      65           70           75           80
Phe Ser Thr His Arg Leu Pro Gly Cys Glu Pro Pro Cys Cys Pro Glu
      85           90           95
Cys Arg Lys Ile Cys Lys Gln Lys Arg Gly Leu Arg Ser Leu Gly Glu
      100          105          110
Lys Met Lys Leu Leu Pro Gln Arg Pro Leu Pro Pro Ala Leu Gln Glu
      115          120          125
Thr Cys Pro Val Arg Ala Glu Pro Leu Leu Leu Val Arg Ile Asn Ala
      130          135          140
Ser Gly Gly Leu Ile Leu Arg Met Gly Ala Ile Asn Arg Cys Leu Lys
      145          150          155          160
His Pro Leu Ala Arg Asp Thr Pro Val Cys Leu Leu Ala Val Leu Gly
      165          170          175
Glu Gln His Ser Gly Lys Ser Phe Leu Leu Asn His Leu Leu Gln Gly
      180          185          190
Leu Pro Gly Leu Glu Ser Gly Glu Gly Gly Arg Pro Arg Gly Gly Glu
      195          200          205
Ala Ser Leu Gln Gly Cys Arg Trp Gly Ala Asn Gly Leu Ala Gly Gly
      210          215          220
Ile Trp Met Trp Ser His Pro Phe Leu Leu Gly Lys Glu Gly Lys Lys
      225          230          235          240
Val Ala Val Phe Leu Val Asp Thr Gly Asp Ala Met Ser Pro Glu Leu
      245          250          255
Ser Arg Glu Thr Arg Ile Lys Leu Cys Ala Leu Thr Thr Met Leu Ser
      260          265          270
Ser Tyr Gln Ile Leu Ser Thr Ser Gln Glu Leu Lys Asp Thr Asp Leu
      275          280          285
Asp Tyr Leu Glu Met Phe Val His Val Ala Glu Val Met Gly Lys His
      290          295          300
Tyr Gly Met Val Pro Ile Gln His Leu Asp Leu Leu Val Arg Asp Ser
      305          310          315          320
Ser His Pro Asn Lys Ala Gly Gln Gly His Val Gly Asn Ile Phe Gln
      325          330          335
Arg Leu Ser Gly Arg Tyr Pro Lys Val Gln Glu Leu Leu Gln Gly Lys
      340          345          350
Arg Ala Arg Cys Cys Leu Leu Pro Ala Pro Gly Arg Arg Arg Met Asn
      355          360          365
Gln Gly His Ala Ser Pro Gly Gly Asp Thr Asp Asp Phe Arg His
      370          375          380
Leu Leu Gly Ala Tyr Val Ser Asp Val Leu Ser Ala Ala Pro Gln His

```

385                      390                      395                      400  
 Ala Lys Ser Arg Cys Gln Gly Tyr Trp Asn Glu Gly Arg Ala Val Ala  
                                  405                      410                      415  
 Arg Gly Asp Arg Arg Leu Leu Thr Gly Gln Gln Leu Ala Gln Glu Ile  
                                  420                      425                      430  
 Lys Asn Leu Ser Gly Trp Met Gly Arg Thr Gly Pro Gly Phe Thr Ser  
                                  435                      440                      445  
 Pro Asp Glu Met Ala Ala Gln Leu His Asp Leu Arg Lys Val Glu Ala  
                                  450                      455                      460  
 Ala Lys Arg Glu Phe Glu Glu Tyr Val Arg Gln Gln Asp Val Ala Thr  
 465                      470                      475                      480  
 Lys Arg Ile Phe Ser Ala Leu Arg Val Leu Pro Asp Thr Met Arg Asn  
                                  485                      490                      495  
 Leu Leu Ser Thr Gln Lys Asp Ala Ile Leu Ala Arg His Gly Val Ala  
                                  500                      505                      510  
 Leu Leu Cys Lys Gly Arg Asp Gln Thr Leu Glu Ala Leu Glu Ala Glu  
                                  515                      520                      525  
 Leu Gln Ala Thr Ala Lys Ala Phe Met Asp Ser Tyr Thr Met Arg Phe  
                                  530                      535                      540  
 Cys Gly His Leu Ala Ala Val Gly Gly Ala Val Gly Ala Gly Leu Met  
 545                      550                      555                      560  
 Gly Leu Ala Gly Gly Val Val Gly Ala Gly Met Ala Ala Ala Ala Leu  
                                  565                      570                      575  
 Ala Ala Glu Ala Gly Met Val Ala Ala Gly Ala Ala Val Gly Ala Thr  
                                  580                      585                      590  
 Gly Ala Ala Val Val Gly Gly Gly Val Gly Ala Gly Leu Ala Ala Thr  
                                  595                      600                      605  
 Val Gly Cys Met Glu Lys Glu Glu Asp Glu Arg Leu Leu Glu Gly Asp  
                                  610                      615                      620  
 Arg Glu Pro Leu Leu Gln Glu Glu  
 625                      630

&lt;210&gt; 5093

&lt;211&gt; 1662

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5093

nggctaggtg cgctgcgagc gcgcgcggac cgcgcacagg cggcggagcc ggtatgggccc  
 60  
 cgcttgcccc tgggcgcccgc gccgcacgag caccagccta gagccagggtt tggtttttcag  
 120  
 gactgaagct tcaagatggc tgaccaggac cctgcgggca tcagccccct ccagcaaata  
 180  
 gtggcctcag gcaccggggc tgtggttacc tctctcttca tgacaccctt ggacgtggtg  
 240  
 aaggttcgcc tgcagtctca gcggccctcc atggccagcg agctgatgcc ttcctccaga  
 300  
 ctgtggagcc tctctatac caaattgccc tcctctcct ataccaaatg gaagtgcctc  
 360  
 ctgtattgca atggtgtcct ggagcctctg tacctgtgcc caaatggtgc ccgctgtgcc  
 420  
 acctggtttc aagaccctac ccgcttcact ggcaccatgg atgccttcgt gaagatcggtg  
 480

aggcacgagg gcaccaggac cctctggagc ggcctccccg ccaccctggt gatgactgtg  
 540  
 ccagctaccg ccatctactt cactgcctat gaccaactga aggccttcct gtgtgggtcga  
 600  
 gccctgacct ctgacctcta cgcacccatg gtggctggcg cgctggcccc cctgggcacc  
 660  
 gtgactgtga tcagccccct ggagcttatg cggacaaagc tgcaggctca gcatgtgtcg  
 720  
 taccgggagc tgggtgcctg tgttcgaact gcagtggctc aggggtggctg gcgctcactg  
 780  
 tggctgggct ggggccccac tgcccttcga gatgtgcctt tctcagtga tccccaccc  
 840  
 caagccctgt actggttcaa ctatgagctg gtgaagagct ggcctaatgg gctcaggccg  
 900  
 aaggaccaga cttctgtggg catgagcttt gtggctgggtg gcatctcagg gacgggtggc  
 960  
 gcagtgtga ctctaccctt tgacgtggta aagacccaac gccaggctcg tctgggagcg  
 1020  
 atggaggctg tgagagtga cccctgcat gtggactcca cctggctgct gctgcggagg  
 1080  
 atccggggcg agtcgggcac caagggactc tttgcaggct tccttctcg gatcatcaag  
 1140  
 gctgccccct cctgtgccat catgatcagc acctatgagt tcggcaaaag cttcttccag  
 1200  
 aggctgaacc aggaccggct tctgggcggc tgaaaggggc aaggaggcaa ggaccccgtc  
 1260  
 tctccacagg atggggagag ggcaggagga gaccagcca agtgcctttt cctcagcact  
 1320  
 gagggagggg gcttggttcc cttccctccc ggcgacaagc tccagggcag ggctgtccct  
 1380  
 ctgggcggcc cagcacttcc tcagacacaa cttcttctg ctgctccagt cgtggggatc  
 1440  
 atcaattacc cccccccaa gttcaagacc aaatcttcca gctgccccct tcgtgttcc  
 1500  
 ctgtgtttgc tgtagctggg catgtctcca ggaaccaaga agccctcagc ctggtgtagt  
 1560  
 ctccctgacc cttgttaatt ccttaagtct aaagatgatg aacttcaaaa aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1662

<210> 5094

<211> 365

<212> PRT

<213> Homo sapiens

<400> 5094

Met	Ala	Asp	Gln	Asp	Pro	Ala	Gly	Ile	Ser	Pro	Leu	Gln	Gln	Met	Val
1				5				10						15	
Ala	Ser	Gly	Thr	Gly	Ala	Val	Val	Thr	Ser	Leu	Phe	Met	Thr	Pro	Leu
		20						25					30		
Asp	Val	Val	Lys	Val	Arg	Leu	Gln	Ser	Gln	Arg	Pro	Ser	Met	Ala	Ser
		35					40					45			
Glu	Leu	Met	Pro	Ser	Ser	Arg	Leu	Trp	Ser	Leu	Ser	Tyr	Thr	Lys	Leu



50	55	60
Pro Ser Leu Ser Tyr Thr Lys Trp Lys Cys Leu Leu Tyr Cys Asn Gly		
65	70	75
Val Leu Glu Pro Leu Tyr Leu Cys Pro Asn Gly Ala Arg Cys Ala Thr		80
	85	90
Trp Phe Gln Asp Pro Thr Arg Phe Thr Gly Thr Met Asp Ala Phe Val		95
	100	105
Lys Ile Val Arg His Glu Gly Thr Arg Thr Leu Trp Ser Gly Leu Pro		110
	115	120
Ala Thr Leu Val Met Thr Val Pro Ala Thr Ala Ile Tyr Phe Thr Ala		125
	130	135
Tyr Asp Gln Leu Lys Ala Phe Leu Cys Gly Arg Ala Leu Thr Ser Asp		140
145	150	155
Leu Tyr Ala Pro Met Val Ala Gly Ala Leu Ala Arg Leu Gly Thr Val		160
	165	170
Thr Val Ile Ser Pro Leu Glu Leu Met Arg Thr Lys Leu Gln Ala Gln		175
	180	185
His Val Ser Tyr Arg Glu Leu Gly Ala Cys Val Arg Thr Ala Val Ala		190
	195	200
Gln Gly Gly Trp Arg Ser Leu Trp Leu Gly Trp Gly Pro Thr Ala Leu		205
	210	215
Arg Asp Val Pro Phe Ser Val His Pro Pro Pro Gln Ala Leu Tyr Trp		220
225	230	235
Phe Asn Tyr Glu Leu Val Lys Ser Trp Leu Asn Gly Leu Arg Pro Lys		240
	245	250
Asp Gln Thr Ser Val Gly Met Ser Phe Val Ala Gly Gly Ile Ser Gly		255
	260	265
Thr Val Ala Ala Val Leu Thr Leu Pro Phe Asp Val Val Lys Thr Gln		270
	275	280
Arg Gln Val Ala Leu Gly Ala Met Glu Ala Val Arg Val Asn Pro Leu		285
	290	295
His Val Asp Ser Thr Trp Leu Leu Leu Arg Arg Ile Arg Ala Glu Ser		300
305	310	315
Gly Thr Lys Gly Leu Phe Ala Gly Phe Leu Pro Arg Ile Ile Lys Ala		320
	325	330
Ala Pro Ser Cys Ala Ile Met Ile Ser Thr Tyr Glu Phe Gly Lys Ser		335
	340	345
Phe Phe Gln Arg Leu Asn Gln Asp Arg Leu Leu Gly Gly		350
	355	360
		365

&lt;210&gt; 5095

&lt;211&gt; 2230

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5095

```

tttttttttg gtataaatac tttatttaaag aaatattgtc attttcgtta aaaaatacat
60
tagagaagag agttttgggt taccagtctt tcctcacaga atcacagtgt aagatattca
120
tttcttgacg tctctaggaa ccttcaggcc acggatcagc agaacataca cgaacaaggg
180
aaaaaaattc ctcttaattt tactgatggc cccccgtctc tcaggtgggc tgagagtggc
240

```

acttggtaaa cagtgtgtgt ttaatccagc ctctgcctct gactaccttt aagaccagga  
300  
ctcgaagcag agtgagaggg ctcctccac ccacctcggg gcgagtgaag acacagctta  
360  
cagaggcggt caaagtagtg acgcagtgag gtctgaatga acacggagga ttttattact  
420  
caccattaat ggtagtgaag tgccttcgg tggataccat cagggtgaggt aggggaagaca  
480  
ttccagagga aatctgttaa tggggcaacg tttttatttc tgtacattta catacaaatt  
540  
ttcccaaaag gtacaacaga tgcgacacca tgcagacacg cagctgtgaa cgacagttca  
600  
gaactcagcg taagcttggt ctatgaacga gcaccgtcag agaattccca cccacacgta  
660  
cagaaacaca gtttttatat tacaacctca aggacagagg gaggggaagtg ttcgccgcta  
720  
gacatgacac accatactgc ttttccaaa cacacgggac atgaaagcga ggtggtgcct  
780  
tctagacgag aggacagctg tagtgtgggc ctcctccgca catgcgatac ctcgggcccg  
840  
gcggtgtgac gtcacaggcc cacttacggc acttgacgtt tgggattgct catttggtc  
900  
taggaagtgg tgggtgtctga gtgcgatact tcccttacga gggttggttt tgttttctt  
960  
ctgttctgta gccaaaccaa tttaccagcc cgtcttcag atgcaggtga tcttactctc  
1020  
agtaaacaaa aacatgtaac ctttttctg tttctcttg gtggaataa ttttagggca  
1080  
tttgataaga gtttgacttc agaaaaagaa caaagtgaag aaatgttcag ctccatctca  
1140  
ggtgttcaca tttgtgcata acttttattg aaaggctgac agggtaggct agcggaacgg  
1200  
aggggtgtgt ggaggagagt agcagggggg gggagggtca agttgaaaca gtgggtgcct  
1260  
gcgaagggtc tccctattag ccaggaaggg aacagcacag aggggttcaa gcctgacaga  
1320  
cggtgctggg aagtgggcag ccgtagcagc ctccctgct gagcccgcg ggccagatg  
1380  
cgtatcaggc ttgggtgggt cctgccacct tgctcacttg gtaccggatt tccgggggt  
1440  
gtgccacag ggaagtgtg ctgctctggc aacatttcat aaaggtgttg ctcaacagct  
1500  
tcaggatatc ctaggtgaa gctgccacca aacaggcacc cggcctcctc ctccctcaggc  
1560  
tgccctggga ggagagctgt gggaccgct cgccggctga gagccattac ctgccgaccg  
1620  
tcggcaagtc agcctcactc acaccactg gactctgctc ccaagagccc aggtgtttt  
1680  
cctcaaagct agcctctttt ccagtcacg atggattagt cctgatggct gaagtgtga  
1740  
gcagtgtctt cgttggacca gtttttatt gtcatttgag gtggagatca gagatcatga  
1800  
ccagaagagt gtgagtgtg tcccttgcca ccaacttct agagatttcg ggcagcactc  
1860

tacagcttca atttccaaaa aaaaaaaagt ttacacgacc agtgagactg ctgcaactt  
 1920  
 tcataactta gcatatcctt ccacaacaca gtacagtaag tggactgcag ggtggcctgg  
 1980  
 tgctgagggt gatgggtgca gacgtacacc tgtccagggt caggctcagg ggcctcgctg  
 2040  
 gatccttccc accttccccca actgcctact ggcctggcta ctggataggt cctattctgt  
 2100  
 acataatggg ggtttgttga cagggtggctt tatagcaagt actccaaaaa aggtaaaagg  
 2160  
 aatttcacaa gtttggcacg caaaggctgc acagatctaa agaaaggcct ttgtaaaagg  
 2220  
 gaatgcaaac  
 2230

<210> 5096  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 5096  
 Met Ala Leu Ser Arg Arg Gly Gly Pro Thr Ala Leu Leu Pro Gly Gln  
 1 5 10 15  
 Pro Glu Glu Glu Ala Gly Cys Leu Phe Gly Gly Ser Phe Ser Leu  
 20 25 30  
 Gly Ile Pro Glu Ala Val Glu Gln His Leu Tyr Glu Met Leu Pro Glu  
 35 40 45  
 Gln Gln His Phe Pro Val Gly Thr Ala Pro Gly Asn Pro Val Pro Ser  
 50 55 60  
 Glu Gln Gly Gly Arg Thr His Pro Ser Leu Ile Arg Ile Trp Ala Arg  
 65 70 75 80  
 Arg Ala Gln Gln Gly Arg Leu Leu Arg Leu Pro Thr Ser Gln His Arg  
 85 90 95  
 Leu Ser Gly Leu Asn Pro Ser Val Leu Phe Pro Ser Trp Leu Ile Gly  
 100 105 110  
 Arg Pro Phe Ala Gly Thr His Cys Phe Asn Leu Thr Leu Pro Pro Pro  
 115 120 125  
 Ala Thr Leu Leu His Thr Pro Leu Arg Ser Ala Ser Leu Pro Cys Gln  
 130 135 140  
 Pro Phe Asn Lys Ser Tyr Ala Gln Met  
 145 150

<210> 5097  
 <211> 3074  
 <212> DNA  
 <213> Homo sapiens

<400> 5097  
 tttttttttt tttttttttt tttttttttt tttttttttt ttttctaaca cttatgcatt  
 60  
 tatttttcatt tgtaagaaga aaaacataac tagcacgtga acatgactgc atggatacac  
 120  
 ggctcagcac gaggctaaag tcagaagtga gtgaaaacaa aatagcatgt tgatttaagt  
 180

gaaataacag aacaggaggc ctttggttat aacaattgtg gaggtggctc gtgaatgcag  
240  
aagttcggga ctccctgctc taggctcagg gcaagacgct gtggctctggg ccgaagcccc  
300  
tgggggttcta cagagaagcc tgcccagtgc acggccccctg tggcattctc gtgggagcgt  
360  
gtgagacccc agggagggaa gcacattctg ttttaacttgt ccgtgccgta caaaatgtct  
420  
tagaagtgat aaagcaacaa tgatgattct ccttcaaagg gaagaagaat cttccagggtg  
480  
tggctcttgag gacgcagagg ttacaacaca ggctgggctg cagggcccaa gtaggacttg  
540  
aggtcataac cagaggactg aagggaaccc tgtcctggca ccatactgga gaagtgcctg  
600  
tttgtgtttg ggggagaggg ggtgcatggc ccaagtcaag gctgaaggag gaacgcttgg  
660  
cccctgcacc ctgttcccag catataccag gctctcacc catgcctgct gactcaacac  
720  
agcaccgagg aggtgccgcc agaaggcagg tggggggatg ctgacatccc ggggtgtctg  
780  
cggaccaccc tctcctcttg ggtctgggcc ctggccccac tttgcaccac acattccagg  
840  
gcggggaagt ccatggctgt gcccactg ggtcccatc ctgtacatgt gcgaaccaag  
900  
ggggtgtttg ctattatgct cccactaaa tccaaagaat gttggttccc atcatttcaa  
960  
cctcaacatt ttcaaaaagc actttttttt ttggagacag agtctcgctg tgtctcccag  
1020  
gctggagtgc agcggggtga tctcagctca ctgcaacctc tgccctctgg gttcaagcaa  
1080  
ttctcctgcc tcagcctccc gagtagctgg gattacaggt gcgtgccacc acaccagct  
1140  
aatttttgta ttttttagtag aaacggggtt tcaccacatt ggccaggctg gtcttgaact  
1200  
cctgacctca agtgatctgc ctgccttggc ctcccaaagt gctgggatta caggcatgag  
1260  
ccaccatgcc cggcctaaaa gcactttttt tttttttgag acggagtctc cctcttgttg  
1320  
cccaggctgg aatgcaatgg tgcaatctca nctgcaacc tctgccttcc agattgaagc  
1380  
aattctcctg cctcagcttc ccagtagct gggattacag gcacctgcta ccatgcctgg  
1440  
ctaatttttg tatttttagt agagacaggg ttccaccatg ttggccaggc tggctctgaa  
1500  
ctcctgacct caggatgacc acccacttg gcctcccaaa gtgctgggat tacaagcgtg  
1560  
agccaccatg ccagcctct aaaaggcact ttttaaggga ccttggagtt tgtcctcaaa  
1620  
cagctcaacc ccacaggcga ggctggctct agcaccctta ccagacagct agtcagtga  
1680  
aggggtccaa cctccccag cttttccctg gaagtggggc agggtcagca ggggaattctg  
1740  
ggggtgaagc tcatggteca ggagccttct ggtgcccaga gggtagagga gtggaaggcc  
1800

tgggggtgct cagccccact gtatcctgga caggctgggc cggcttgag gctggtctcc  
 1860  
 atggaggctc agaaggaaag tgtgcaagag caggtttaga agggaaacca agtcaggga  
 1920  
 gggccccagc cggggctagt ggtctgttca ctgcccagcg ggcaactctca gcagcacccc  
 1980  
 gcagcactcc gcttcacatg gcatggcttg cagaagagat ggttggttcag ggggtagcag  
 2040  
 ccttggtccg tgggctcgac agacaggagg atcctgcagt cctcacacct gtagcaattt  
 2100  
 tcatggaagt ttcttcccat gcattcgatt ttgaaggcat ctttcccatc ccgagggatg  
 2160  
 atgggatttt cacagatgct gcagacgggg gcgaatttcc tgtagaagtc gtccaggcag  
 2220  
 tacacctcgt tctggctgcc cagggcaaaag ctctcatccc caatgcaccg ggcgaggtc  
 2280  
 acacacgtga agcaggaggg gtggaaggcc tggcccaggg ccctgatgat gtggtcccgg  
 2340  
 accacctcgc cacacttgcc gcacctctcc agtgtgtcct ggtagcaggg ttcgcagagg  
 2400  
 ggtcgcccat ctttctggta gaagctctgc ccagccagct ggcggcggca ggtgtggcga  
 2460  
 ggtggtccgg gaccacatca tcagggccct gggccaggcc ttccaccct cctgcttcac  
 2520  
 gtgtgtgacc tgcgcccggg gcattgggga tgagagcttt gccctgggca gccagaacga  
 2580  
 ggtgtactgc ctggacgact tctacaggaa attcgcccc gtctgcagca tctgtgaaaa  
 2640  
 tcccatcatc cctcgggatg ggaaagatgc cttcaaaatc gaatgcatgg gaagaaactt  
 2700  
 ccatgaaaat tgctacaggt gtgaggactg caggatcctc ctgtctgtcg agcccacgga  
 2760  
 ccaaggctgc taccctctga acaaccatct cttctgcaag ccatgccatg tgaagcggag  
 2820  
 tgctgcgggg tgctgctgag agtgcccgtt gggcagtga cagaccacta gccccggctg  
 2880  
 gggcccttcc ctgacttggt ttcccttcc aacctgctct tgcacacttt ctttctgagc  
 2940  
 ctccatggag accagcctgc aagccggccc agcctgtcca ggatacagtg gggctgagca  
 3000  
 cccccaggcc ttccactcct ctaccctctg ggcaccagaa ggctcctgga ccatgagctt  
 3060  
 cccccaga attc  
 3074

&lt;210&gt; 5098

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5098

Met Ala Val Pro Gln Leu Gly Pro Ile Pro Val His Val Arg Thr Lys  
 1 5 10 15  
 Gly Val Phe Ala Ile Met Leu Pro Thr Lys Ser Lys Glu Cys Trp Phe

```
<210> 5100
<211> 102
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 5100

Ala Cys Arg Arg Ala Arg Val Gly Glu Ala Asp Trp Val Leu Gly Leu  
 1 5 10 15  
 Cys Asp Glu Ala Gly Thr Pro Val Gly Leu Gly Leu Leu Leu Glu Leu  
 20 25 30  
 Gly Pro Ser Ala Arg Pro Pro Pro Thr Pro Thr Trp Thr Gly Pro Gly  
 35 40 45  
 Leu Gly Thr Leu Ser Cys Val Lys Glu Asn Lys Gly Lys Glu Thr Ser  
 50 55 60  
 Leu Cys Ala Pro Ser Leu Pro Asn Lys His Glu Ser Asp Val Leu Gln  
 65 70 75 80  
 Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 85 90 95  
 Lys Lys Lys Lys Lys Lys  
 100

&lt;210&gt; 5101

&lt;211&gt; 1711

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5101

ggacctgctg ctggaagagc agcggcccca gccggggcca tggcgaagct gctgagctgc  
 60  
 gtcctaggcc cccggctcta caaaatctac cgggagaggg actctgaaag ggccccggcc  
 120  
 agcgtccctg agacgccaac ggcagtcact gccccccatt ccagctcctg ggatacgtac  
 180  
 tatcagcccc gtgcccctgga gaaacatgct gacagcatcc tggcactggc ttcagtattc  
 240  
 tgggtccatct cttattactc ctctcccttc gccttcttct acttgtagac gaaaggttac  
 300  
 ttgagtttgt ccaaagtggg gccgttttct cactatgctg ggacattgct gctacttctg  
 360  
 gcagggtgtg cctgcctccg aggcattggc cgctggacca acccccagta ccggcagttc  
 420  
 atcaccatct tgggaagcaac acatcggaac cagtcttcag aaaacaagag gcagcttgcc  
 480  
 aactacaact ttgacttccg gagctggcca gtcgacttcc actgggaaga acccagcagc  
 540  
 cggaaggagt ctcgaggggg cccttcccgc cggggtgtgg ccctgcttcg cccagagccc  
 600  
 ctgcaccggg ggacagcaga caccctctc aaccgggtta agaagctgcc ttgtcagatc  
 660  
 accagctacc tgggtggcgca caccctagga cgccggatgc tgtatccagg ctctgtgtac  
 720  
 ctgctgcaga aggccctcat gcctgcgctg ctgcagggcc agggcccact ggtggaagag  
 780  
 tgtaatgggc gccgggcaaa gctgctggcc tgtgatggca atgagattga caccatgrrt  
 840  
 gtggaccggc gggggacagc tgagccccag ggacagaagc tgggtgatctg ctgtgagggg  
 900  
 aatgctgggt tttatgaggt gggctgcgtc tccacgcccc tgggaagctgg atattcagtc  
 960

ctgggctgga atcatccagg ctttgctgga agcacggggg taccattccc acagaatgag  
 1020  
 gccaatgccca tggatgtggt ggttcagttt gccatccacc gcctgggctt ccagccccag  
 1080  
 gacattgtca tctacgctg gtccatcggc ggcttcactg ccacgtgggc agccatgtcc  
 1140  
 taccagatg ttagtgccat gatcctggat gcctcctttg atgacctggt gcccttggcc  
 1200  
 ttgaaggatc tgccagacag ctggaggggc ctggtgacca ggaccgtgag gcagcatctc  
 1260  
 aatctaaaca acgcgagca gctgtgcaga taccaggggc ctgtactgct gatccggaga  
 1320  
 accaaggatg agatcatcac caccacgtga gtgcgtggga atctcgcccc tcaggaaccc  
 1380  
 cagagatggc caggaacttg tcccttctac ctctgccac cagaaacctg ggtatctaga  
 1440  
 cccttctcc taacctccag cccctccagg gtacattctt ctcaccccca gggttcctga  
 1500  
 ggacatcatg tccaaccgag gcaatgacct cctgctgaag ctctgcagc atcggtatcc  
 1560  
 ccgggtgatg gcagaggagg gtcttcgagt ggtgaggcag tggttggagg cctcctcaca  
 1620  
 gctggaggaa gcctcaattt atagccgatg ggaggtggaa gaggactggt gtctgtctgt  
 1680  
 cctccgctcc taccaggcag aacacggggc c  
 1711

&lt;210&gt; 5102

&lt;211&gt; 436

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5102

Met Ala Lys Leu Leu Ser Cys Val Leu Gly Pro Arg Leu Tyr Lys Ile  
 1 5 10 15  
 Tyr Arg Glu Arg Asp Ser Glu Arg Ala Pro Ala Ser Val Pro Glu Thr  
 20 25 30  
 Pro Thr Ala Val Thr Ala Pro His Ser Ser Ser Trp Asp Thr Tyr Tyr  
 35 40 45  
 Gln Pro Arg Ala Leu Glu Lys His Ala Asp Ser Ile Leu Ala Leu Ala  
 50 55 60  
 Ser Val Phe Trp Ser Ile Ser Tyr Tyr Ser Ser Pro Phe Ala Phe Phe  
 65 70 75 80  
 Tyr Leu Tyr Arg Lys Gly Tyr Leu Ser Leu Ser Lys Val Val Pro Phe  
 85 90 95  
 Ser His Tyr Ala Gly Thr Leu Leu Leu Leu Ala Gly Val Ala Cys  
 100 105 110  
 Leu Arg Gly Ile Gly Arg Trp Thr Asn Pro Gln Tyr Arg Gln Phe Ile  
 115 120 125  
 Thr Ile Leu Glu Ala Thr His Arg Asn Gln Ser Ser Glu Asn Lys Arg  
 130 135 140  
 Gln Leu Ala Asn Tyr Asn Phe Asp Phe Arg Ser Trp Pro Val Asp Phe  
 145 150 155 160  
 His Trp Glu Glu Pro Ser Ser Arg Lys Glu Ser Arg Gly Gly Pro Ser



165 170 175  
 Arg Arg Gly Val Ala Leu Leu Arg Pro Glu Pro Leu His Arg Gly Thr  
 180 185 190  
 Ala Asp Thr Leu Leu Asn Arg Val Lys Lys Leu Pro Cys Gln Ile Thr  
 195 200 205  
 Ser Tyr Leu Val Ala His Thr Leu Gly Arg Arg Met Leu Tyr Pro Gly  
 210 215 220  
 Ser Val Tyr Leu Leu Gln Lys Ala Leu Met Pro Ala Leu Leu Gln Gly  
 225 230 235 240  
 Gln Ala Arg Leu Val Glu Glu Cys Asn Gly Arg Arg Ala Lys Leu Leu  
 245 250 255  
 Ala Cys Asp Gly Asn Glu Ile Asp Thr Met Phe Val Asp Arg Arg Gly  
 260 265 270  
 Thr Ala Glu Pro Gln Gly Gln Lys Leu Val Ile Cys Cys Glu Gly Asn  
 275 280 285  
 Ala Gly Phe Tyr Glu Val Gly Cys Val Ser Thr Pro Leu Glu Ala Gly  
 290 295 300  
 Tyr Ser Val Leu Gly Trp Asn His Pro Gly Phe Ala Gly Ser Thr Gly  
 305 310 315 320  
 Val Pro Phe Pro Gln Asn Glu Ala Asn Ala Met Asp Val Val Val Gln  
 325 330 335  
 Phe Ala Ile His Arg Leu Gly Phe Gln Pro Gln Asp Ile Val Ile Tyr  
 340 345 350  
 Ala Trp Ser Ile Gly Gly Phe Thr Ala Thr Trp Ala Ala Met Ser Tyr  
 355 360 365  
 Pro Asp Val Ser Ala Met Ile Leu Asp Ala Ser Phe Asp Asp Leu Val  
 370 375 380  
 Pro Leu Ala Leu Lys Val Met Pro Asp Ser Trp Arg Gly Leu Val Thr  
 385 390 395 400  
 Arg Thr Val Arg Gln His Leu Asn Leu Asn Ala Glu Gln Leu Cys  
 405 410 415  
 Arg Tyr Gln Gly Pro Val Leu Leu Ile Arg Arg Thr Lys Asp Glu Ile  
 420 425 430  
 Ile Thr Thr Thr  
 435

&lt;210&gt; 5103

&lt;211&gt; 1982

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5103

tttttttttt ttgacacaat tcagctttat ttttacttaa ttataacaat ttttaaaaaac  
 60  
 tccatgactt tgtgctatatt ctaatatatta aataaaaaaac atttcaaatt ttgcacaaat  
 120  
 aatttaggcc aatacataac tagatttgaa taaagtcaga tgaagcaata attcctcctc  
 180  
 tgtgttttgaa aggaatgagt gtggttacaa agtcacagga tgagtcctctg ggatctgggg  
 240  
 tgggagaagg ggtggatcaa gaatgacttg ggtttgtcac tccctagcag gctgagggcg  
 300  
 tgacacagca gctcgggtggc ggagaggtct attctagttt ctaacactcc aatgctaact  
 360

ttttggatgt atttccttct agcatgtaga aagggtcttt cttggctgcc aggaagtagg  
420  
gagcagggat gtggcatggt gatgatctga ggacagccag gcatatgctc agacactttg  
480  
gaaaactggg gagggggaac agggagacag aatcttcac tcttccttt tgtgaactgg  
540  
ggaggagggt gcttggtgac attttctga gtataaagaa ggaatacagg tttgaaaggt  
600  
ttgtaattgt atatgaaaac aggtattgaa aaccaatact gggggaaaaa aggcattgta  
660  
aacacttcta tttaaaatga agatttctgg aacaactata ctatatagtg gtatcacaag  
720  
tcttttagctg gtaagatcta gcactgaaac aactcttaat ttttaacttg tgagggttct  
780  
ttttaagca ccacttaaga cctatatatt aaaaaatta aatatagaaa gattgttcta  
840  
tctaataaat gagtttgaga atgcacagga aacaacaaaa cccattttta acctctggta  
900  
actgaagtgg agcattaaat tcaaagccac tttgaggatt tctacattg ttcacctaag  
960  
ggaaaacaaa tgcagagcta tcaaagagct tctcgataaa tcccagacc ttggagggtc  
1020  
acagcttttc ataaatatgg tcaactggact gatgatttct aaattttaaa tgtaataccc  
1080  
ccaaaaagta aaatatagga tttataagta ttttattttt ctgagaaatg accaaaaaat  
1140  
tggaaccagt ttaacaatc tctgaaaact ttaaattcta gacatgttta ttttgaaaca  
1200  
cacttccaaa caagataaac aacaatatgt aagtctacta cactgcagaa gtagcttaaa  
1260  
cttgccaaga catcctcctt tgcacttggt tctcaagag ttgctaggtc attttttttg  
1320  
cctgtggcca gcagcctctt taaaaacaac aaaggaccta atgtcaaagt cactctcagg  
1380  
tgtttgccct gccagctcag gccttctcgg cacaccgcac cccgaaggag cacggaggcc  
1440  
cgcagggtctg gctggccctg gttccagcct caccgccggt tggaccgctt ttcgtacttg  
1500  
tcctggctgc tccgctttcg tggcggggag taactggcgg aacctcgagc gcggaagctg  
1560  
tgcttgtaag gatggcttct gtgtttcttc gggttttctt ctttctgggc ctggctcttc  
1620  
gctggttcct tatcgccctc tttttgttca tgggtctgct ctttatgaga gggcaatgtg  
1680  
tttttaattg tgtaattag aaatctttta ttggtgctag caagaggaca cttcatccaa  
1740  
cccatgggtc ccattgtttc agctctagtt tcccacggt ttgctcctt aagcagttct  
1800  
tctattgctt tctctccag ctctgatcc tcttccatcg ctggggcggg ttctggatcc  
1860  
tcagggtgtg ctggcggtac gggggctctg tcccatagcg cgaggcgcgg aggcgaagca  
1920  
ggaagcaagg accgaccgac ggaaggcgcg gaggacggaa ggaggaggga ggagcgcagc  
1980

gg  
1982

<210> 5104  
<211> 167  
<212> PRT  
<213> Homo sapiens

<400> 5104  
Met Phe Ile Leu Lys His Thr Ser Lys Gln Asp Lys Gln Gln Tyr Val  
1 5 10 15  
Ser Leu Leu His Cys Arg Ser Ser Leu Asn Leu Pro Arg His Pro Pro  
20 25 30  
Leu His Leu Phe Pro Gln Glu Leu Leu Gly His Phe Phe Cys Leu Trp  
35 40 45  
Pro Ala Ala Ser Leu Lys Thr Thr Lys Asp Leu Met Ser Lys Ser Leu  
50 55 60  
Ser Gly Val Cys Pro Ala Ser Ser Gly Leu Leu Arg Thr Pro His Pro  
65 70 75 80  
Glu Gly Ala Arg Arg Pro Ala Gly Leu Ala Gly Pro Gly Ser Ser Leu  
85 90 95  
Thr Ala Gly Trp Thr Ala Phe Arg Thr Cys Pro Gly Cys Ser Ala Phe  
100 105 110  
Val Ala Gly Ser Asn Trp Arg Asn Leu Glu Arg Gly Ser Cys Ala Cys  
115 120 125  
Lys Asp Gly Phe Cys Val Ser Ser Gly Phe Leu Leu Ser Gly Pro Gly  
130 135 140  
Ser Ser Leu Val Pro Tyr Arg Pro Leu Phe Val His Gly Leu Ala Leu  
145 150 155 160  
Tyr Glu Arg Ala Met Cys Phe  
165

<210> 5105  
<211> 1359  
<212> DNA  
<213> Homo sapiens

<400> 5105  
ntgctgatgg aatgtttctg ttcagggctg ttgtgacagt tgtgaagaga cagtccggcc  
60  
agtgccaatg agtgcattgg ttgggagttg ttttgtgtgc ccccggaaca gagtggggg  
120  
tccagttccc cccacacca gcaaagtggg caagaccccc cagaggtggt tctctctgtt  
180  
ctggcttgtt gcaggttcgg agggcagccc tgagtgtctg ccatccgctc aactcagtgt  
240  
tttccttttc ccgcagacct cgcgacctgt gtcagcagag ccgccctgca ccaccatgtg  
300  
catcatcttc tttaagtttg atcctcgccc tgtttccaaa aacgcgtaca ggctcatctt  
360  
ggcagccaac agggatgaat tctacagccg accctccaag ttagctgact tctgggggaa  
420  
caacaacgag atcctcagtg ggctggacat ggaggaaggc aaggaaggag gcacatggct  
480

gggcatcagc acacgtggca agctggcagc actcaccaac tacctgcagc cgcagctgga  
 540  
 ctggcaggcc cgagggcgag cacagcaaag ggagacgtca tttgctacta tgggaaccga  
 600  
 ggggagcctg atcctatcgt tttgacgccc ggcacgtacg ggctgagcaa cgcgctgctg  
 660  
 gagactccct ggaggaagct gtgctttggg aagcagctct tcctggaggc tgtggaacgg  
 720  
 agccaggcgc tgcccaagga tgtgctcatc gccagcctcc tggatgtgct caacaatgaa  
 780  
 gaggcgcagc tgccagaccc ggccatcgag gaccaggggtg gggagtacgt gcagcccatg  
 840  
 ctgagcaagt acgcggctgt gtgcgtgcgc tgccctggct acggcaccag aaccaacact  
 900  
 atcatcctgg tagatgcgga cggccacgtg accttcactg agcgtagcat gatggacaag  
 960  
 gacctctccc actgggagac cagaacctat gagttcacac tgcagagcta accccacctc  
 1020  
 tgggcctggc cagtgggctc ctggggggcc ctgccttgag gggcactgtg gacaggaaac  
 1080  
 cttcctttgc catactgcat tgcactgccc gtggcttggc cagcatcccc cggatcaggg  
 1140  
 ccctgtgggt tgctgtgtac ccatctgtgt ccccatgccc agttcagggt ctgcctttat  
 1200  
 gccagtgagg agcagcagag tctgatacta ggtctaggac cggccgaggt ataccatgaa  
 1260  
 catgtggata gacctgagcc cactcttgca catgtacaca ggcactcaca tggcacacac  
 1320  
 atacactcct gcgtgtgcac aagcacacac atgccaggc  
 1359

&lt;210&gt; 5106

&lt;211&gt; 178

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5106

Met	Ala	Gly	His	Gln	His	Thr	Trp	Gln	Ala	Gly	Ser	Thr	His	Gln	Leu
1				5				10						15	
Pro	Ala	Ala	Ala	Ala	Gly	Leu	Ala	Gly	Pro	Arg	Ala	Ser	Thr	Ala	Lys
			20					25					30		
Gly	Asp	Val	Ile	Cys	Tyr	Tyr	Gly	Asn	Arg	Gly	Glu	Pro	Asp	Pro	Ile
		35					40					45			
Val	Leu	Thr	Pro	Gly	Thr	Tyr	Gly	Leu	Ser	Asn	Ala	Leu	Leu	Glu	Thr
		50				55					60				
Pro	Trp	Arg	Lys	Leu	Cys	Phe	Gly	Lys	Gln	Leu	Phe	Leu	Glu	Ala	Val
65					70				75					80	
Glu	Arg	Ser	Gln	Ala	Leu	Pro	Lys	Asp	Val	Leu	Ile	Ala	Ser	Leu	Leu
			85					90						95	
Asp	Val	Leu	Asn	Asn	Glu	Glu	Ala	Gln	Leu	Pro	Asp	Pro	Ala	Ile	Glu
		100						105					110		
Asp	Gln	Gly	Gly	Glu	Tyr	Val	Gln	Pro	Met	Leu	Ser	Lys	Tyr	Ala	Ala
		115					120						125		
Val	Cys	Val	Arg	Cys	Pro	Gly	Tyr	Gly	Thr	Arg	Thr	Asn	Thr	Ile	Ile

130		135		140	
Leu Val Asp Ala Asp Gly His Val Thr Phe Thr Glu Arg Ser Met Met					
145		150		155	160
Asp Lys Asp Leu Ser His Trp Glu Thr Arg Thr Tyr Glu Phe Thr Leu					
	165		170		175

Gln Ser

&lt;210&gt; 5107

&lt;211&gt; 1207

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5107

```

ngggccccggc ggattctccg gctgaggggtc agtccagagt ctgcatccag gtcactgacc
60
agtccctgcag cccgcaggct ctgctgtgcc tctttggcgt attcctcttg ctactcccc
120
acagggatga ccaccacctg gaacggggac agccacagtg gccatttccc cccgcagctt
180
tctgccagca ctccaacag tctttccaca gaaccgagca ctgctcgggtg aatgaggact
240
ggacgtccca gggcacccgc cccagtttgt atttatttat ttatttattt atttagagac
300
agagtctcgc tctgtcgnc taggggggtg cagtggcgca atctcagctc actgcaacct
360
ccacctcccc ggttcaagcg attctcctgc ctcagcctcc tgagtagctg ggattacagg
420
cgtgtgccac catgccccgc taatttttgt attttttagta gagacagggt ttcaccgtgt
480
tagccagggt ggtcttgatc tctgacctc atgatccgtc cgcctcagcc tcccagagt
540
ctgggattac aggcattgagc cactgcgctt ggcccaattt attttttttt gtagtttcat
600
tctcctcaca tccaaacagc tacagcttcc ctcttttgtt ggggtcccca aaccaagtct
660
cttttcagga gagcagacat gtgcctccac acagttctga agttctgggg gctccacatt
720
gtcagctggg ttgggggtct ccatgtgagg gaggtgatg gcactcgcag gtttttgcct
780
catctatgta caaaggctca gaaaatttct tcggcatttg ggaccctcgt gttctgtagc
840
tccaccagtc gctgcacagc ctcaggcaag tcccactccc caaggcgacg attatctcga
900
gtccgaatgt tcaactgttct cttactttgc tctttctggc caaccacaaa ctgaaaattg
960
tagtgggcaa gctggggccc gcggattctc cggctgaggg tcagtccaga gtctgcatcc
1020
aggctactga ccagtcctgc agcccgcagg ctctgctgtg cctcttttggc gtattcctct
1080
tgctcactcc ccacagggat gaccaccacc tggaacgggg acagccacag tggccctta
1140
tactggaggt caaatctcag gggcggttgg aagtcaagct gaattgtccc aactgatgt
1200

```

ggccggc  
1207

<210> 5108  
<211> 83  
<212> PRT  
<213> Homo sapiens

<400> 5108  
Met Arg Thr Gly Arg Ser Arg Ala Pro Ala Pro Val Cys Ile Tyr Leu  
1 5 10 15  
Phe Ile Tyr Leu Phe Arg Asp Arg Val Ser Leu Cys Arg Xaa Arg Gly  
20 25 30  
Val Gln Trp Arg Asn Leu Ser Ser Leu Gln Pro Pro Pro Gly Phe  
35 40 45  
Lys Arg Phe Ser Cys Leu Ser Leu Leu Ser Ser Trp Asp Tyr Arg Arg  
50 55 60  
Val Pro Pro Cys Pro Ala Asn Phe Cys Ile Phe Ser Arg Asp Arg Val  
65 70 75 80  
Ser Pro Cys

<210> 5109  
<211> 651  
<212> DNA  
<213> Homo sapiens

<400> 5109  
nnggccgctt ccgtgcaaaa gctcggggac gctctgctgg agaagattcg ggagcccgc  
60  
ctgcagnatg cgcagtggac ttttgaatca gctgtgcaag agaatatcag cattaatggg  
120  
caagcatggc aggaagcttc agataattgt tttatggatt ctgacatcaa agtacttgaa  
180  
gatcagtttg atgaaatcat agtagatata gccacaaaac gtaagcagta tcccagaaag  
240  
atcctggaat gtgtcatcaa aaccataaaa gcaaaacaag aaattctgaa gcagtaccac  
300  
cctgttgtag atccactgga cctaaaatat gacctgac cagttctcaa cgggaatgct  
360  
ttcaactttt cccattcaa catgatgttg gctgtggatt tgtcatatat gggttttatt  
420  
acttcggccc ctcatatgga aaatttgaaa tgcagagggg aaacagtagc aaaggagatc  
480  
agtgaagcca tgaagtcctt gcctgcatta attgaacaag gagagggatt ttcccaagtt  
540  
ctcaggatgc agcctgttat ccacctccag aggattcacc aagaagtctt ttccagttgt  
600  
cataggaaac cagatgctaa acctgagaac tttataaac agatagaaac c  
651

<210> 5110  
<211> 206  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5110

```

Leu Leu Glu Lys Ile Arg Glu Pro Ala Leu Gln Xaa Ala Gln Trp Thr
 1           5           10           15
Phe Glu Ser Ala Val Gln Glu Asn Ile Ser Ile Asn Gly Gln Ala Trp
      20           25           30
Gln Glu Ala Ser Asp Asn Cys Phe Met Asp Ser Asp Ile Lys Val Leu
      35           40           45
Glu Asp Gln Phe Asp Glu Ile Ile Val Asp Ile Ala Thr Lys Arg Lys
      50           55           60
Gln Tyr Pro Arg Lys Ile Leu Glu Cys Val Ile Lys Thr Ile Lys Ala
      65           70           75           80
Lys Gln Glu Ile Leu Lys Gln Tyr His Pro Val Val His Pro Leu Asp
      85           90           95
Leu Lys Tyr Asp Pro Asp Pro Val Leu Asn Gly Asn Ala Phe Asn Phe
      100          105          110
Ser Pro Phe Asn Met Met Leu Ala Val Asp Leu Ser Tyr Met Val Phe
      115          120          125
Ile Thr Ser Ala Pro His Met Glu Asn Leu Lys Cys Arg Gly Glu Thr
      130          135          140
Val Ala Lys Glu Ile Ser Glu Ala Met Lys Ser Leu Pro Ala Leu Ile
      145          150          155          160
Glu Gln Gly Glu Gly Phe Ser Gln Val Leu Arg Met Gln Pro Val Ile
      165          170          175
His Leu Gln Arg Ile His Gln Glu Val Phe Ser Ser Cys His Arg Lys
      180          185          190
Pro Asp Ala Lys Pro Glu Asn Phe Ile Thr Gln Ile Glu Thr
      195          200          205

```

&lt;210&gt; 5111

&lt;211&gt; 2247

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5111

```

nccccgcgcg ccgcctcagg ctctcacc ccgcgcgcgc ccgcgcgagg cggggacatg
60
caaatgaacc aacggtctcc gcagcgccgc gccgcgcagg cgcaagccgc cgccgagtcc
120
tggtgcgag gcgcgggccc ccgcggcccc gctctcttgc gcaagcgcg tgtccgcttc
180
ttctgggagg acgctctgga ggcaaaacat ttccctgctg ggggcggcga ccaccgtgag
240
cgtcccggaa ggggcggcaa agacgcctcc gtcgcgcacg aggtggcctc gttggcttta
300
ccttggttcg cggtcgtcct tggttatcgt gagcgccgc gagtctctgg gaggccaagc
360
ctaggggccc cacagcgctt gcgcgcgtac ggcggccgga aggggctaga ggcggctccc
420
tggtgacaaa ccgcgcgccc cacctttccc cacgtggccg cgaagaccgg ctccaggaga
480
tctatcggtt gcacgccaac atcaacacag gcgaagatgg tctccaagcg cattgccagc
540

```

gagacctttg atgcagctgt gcgcgagaac atcgaggagt ttgcgatggg gccagaggag  
600  
gcagtgaag aggccgtgga gcagtttgaa tgcgaagggg ttgatctgag caacattgta  
660  
aagacggcac ctaaagtctc tgcagacgga tcccaggagc ccacacatga catcctgcag  
720  
atgctcagt acctccagga gtctgtggcc agctctcgcc cccaggagggt gtcagcatac  
780  
ctcacccgct tctgcgacca gtgcaaacag gacaaggcct gccgcttcct cgcggcccg  
840  
aagggggcct accccatcat cttcactgcc aggaagctgg ccaactgcagg tgaccagggc  
900  
cttctgctcc agtccctcaa tgccctgtcg gtgctgactg atggacagcc agacctcctg  
960  
gatgcccagg gcctgcagct cctagtggcc acgctgaccc agaattgctga tgaggctgac  
1020  
ctgacctgct ctgggatccg ctgtgtgcgt cacgcttgcc tgaaacatga acagaatcgg  
1080  
caagacctgg tgaaagctgg cgtgctgcct ctgctgactg gtgccatcac ccatcatggc  
1140  
caccacactg acgtgggtcag ggaagcctgc tgggccctgc gtgtcatgac cttcgatgac  
1200  
gacatccgtg tgccctttgg ccatgcccac aaccatgcca agatgattgt gcaggagaac  
1260  
aaaggcttga aggtgctcat cgaagccacc aaagcgcttc tggataaccc tggcatcctg  
1320  
agcgagctct gtggaacct gtcccgcctg gccattcgca acgagttctg ccaggaggtc  
1380  
gtcgacctcg ggggcctgag cattctggtg tccttgctag ccgactgcaa tgaccaccag  
1440  
atgagggacc agagcggcgt tcaggagctc gtgaagcaag tgctgagcac cctgcgagcc  
1500  
atcgaggca acgacgacgt gaaagatgct attgtccgtg ctggtgggac ggagtccatc  
1560  
gtggctgcta tgaccagca tctgaccagc cccagggtgt gggagcagag ctgcgcggcc  
1620  
ctgtgcttcc tggccctgcg taagcccgac aacagccgca tcatcgtgga ggggtggcggg  
1680  
gctgtggcag cactgcaggc catgaaggca caccgcaga aggcggcgt gcagaaacag  
1740  
gcttgcatgc tgatccgaaa cctggtggcc cacggccagg ccttctcgaa gccatcctg  
1800  
gacctggggg ctgaggcact catcatgcag gcccgatctg cccaccgtga ctgtgaggac  
1860  
gtggccaagg ccgccctgcg ggacctgggt tgtcatgtcg agctccgaga gctgtggaca  
1920  
ggccagagg gcaacctggc gccatgaccc caggcccagt ctgggcccgtg actctgggtg  
1980  
agtcgtgtga ctcaggaatg ggggtagatc catgtcctcc actgtcccc attagttctg  
2040  
tccccttcac aatgagaagt gttttctggc aggccttagg taaagggctg ggggaggggg  
2100  
gagccttgta gggaggcctc tacacagaag aaagcagccc ccatgtccca gccacttctg  
2160



ggccccagcc agcagcacgg atgttactgt cctgctcctt cccccagccc cagccctac  
 2220  
 cagagggggc aaagggcacg tcccatc  
 2247

<210> 5112

<211> 581

<212> PRT

<213> Homo sapiens

<400> 5112

Ala	Lys	His	Phe	Pro	Ala	Gly	Gly	Gly	Asp	His	Arg	Glu	Arg	Pro	Gly	1	5	10	15
Arg	Gly	Gly	Lys	Asp	Ala	Ser	Val	Ala	His	Glu	Val	Ala	Ser	Leu	Ala	20	25	30	
Leu	Pro	Trp	Phe	Ala	Val	Val	Leu	Gly	Tyr	Arg	Glu	Arg	Pro	Arg	Val	35	40	45	
Ser	Gly	Arg	Pro	Ser	Leu	Gly	Ala	Pro	Gln	Arg	Leu	Arg	Ala	Tyr	Gly	50	55	60	
Gly	Arg	Lys	Gly	Leu	Glu	Ala	Ala	Pro	Trp	Val	Thr	Thr	Ala	Arg	Pro	65	70	75	80
Thr	Phe	Pro	His	Val	Ala	Ala	Lys	Thr	Gly	Ser	Gly	Ala	Ser	Ile	Gly	85	90	95	
Cys	Thr	Pro	Thr	Ser	Thr	Gln	Ala	Lys	Met	Val	Ser	Lys	Arg	Ile	Ala	100	105	110	
Gln	Glu	Thr	Phe	Asp	Ala	Ala	Val	Arg	Glu	Asn	Ile	Glu	Glu	Phe	Ala	115	120	125	
Met	Gly	Pro	Glu	Glu	Ala	Val	Lys	Glu	Ala	Val	Glu	Gln	Phe	Glu	Ser	130	135	140	
Gln	Gly	Val	Asp	Leu	Ser	Asn	Ile	Val	Lys	Thr	Ala	Pro	Lys	Val	Ser	145	150	155	160
Ala	Asp	Gly	Ser	Gln	Glu	Pro	Thr	His	Asp	Ile	Leu	Gln	Met	Leu	Ser	165	170	175	
Asp	Leu	Gln	Glu	Ser	Val	Ala	Ser	Ser	Arg	Pro	Gln	Glu	Val	Ser	Ala	180	185	190	
Tyr	Leu	Thr	Arg	Phe	Cys	Asp	Gln	Cys	Lys	Gln	Asp	Lys	Ala	Cys	Arg	195	200	205	
Phe	Leu	Ala	Ala	Gln	Lys	Gly	Ala	Tyr	Pro	Ile	Ile	Phe	Thr	Ala	Arg	210	215	220	
Lys	Leu	Ala	Thr	Ala	Gly	Asp	Gln	Gly	Leu	Leu	Leu	Gln	Ser	Leu	Asn	225	230	235	240
Ala	Leu	Ser	Val	Leu	Thr	Asp	Gly	Gln	Pro	Asp	Leu	Leu	Asp	Ala	Gln	245	250	255	
Gly	Leu	Gln	Leu	Leu	Val	Ala	Thr	Leu	Thr	Gln	Asn	Ala	Asp	Glu	Ala	260	265	270	
Asp	Leu	Thr	Cys	Ser	Gly	Ile	Arg	Cys	Val	Arg	His	Ala	Cys	Leu	Lys	275	280	285	
His	Glu	Gln	Asn	Arg	Gln	Asp	Leu	Val	Lys	Ala	Gly	Val	Leu	Pro	Leu	290	295	300	
Leu	Thr	Gly	Ala	Ile	Thr	His	His	Gly	His	His	Thr	Asp	Val	Val	Arg	305	310	315	320
Glu	Ala	Cys	Trp	Ala	Leu	Arg	Val	Met	Thr	Phe	Asp	Asp	Asp	Ile	Arg	325	330	335	
Val	Pro	Phe	Gly	His	Ala	His	Asn	His	Ala	Lys	Met	Ile	Val	Gln	Glu				

340 345 350  
 Asn Lys Gly Leu Lys Val Leu Ile Glu Ala Thr Lys Ala Phe Leu Asp  
 355 360 365  
 Asn Pro Gly Ile Leu Ser Glu Leu Cys Gly Thr Leu Ser Arg Leu Ala  
 370 375 380  
 Ile Arg Asn Glu Phe Cys Gln Glu Val Val Asp Leu Gly Gly Leu Ser  
 385 390 395 400  
 Ile Leu Val Ser Leu Leu Ala Asp Cys Asn Asp His Gln Met Arg Asp  
 405 410 415  
 Gln Ser Gly Val Gln Glu Leu Val Lys Gln Val Leu Ser Thr Leu Arg  
 420 425 430  
 Ala Ile Ala Gly Asn Asp Asp Val Lys Asp Ala Ile Val Arg Ala Gly  
 435 440 445  
 Gly Thr Glu Ser Ile Val Ala Ala Met Thr Gln His Leu Thr Ser Pro  
 450 455 460  
 Gln Val Trp Glu Gln Ser Cys Ala Ala Leu Cys Phe Leu Ala Leu Arg  
 465 470 475 480  
 Lys Pro Asp Asn Ser Arg Ile Ile Val Glu Gly Gly Gly Ala Val Ala  
 485 490 495  
 Ala Leu Gln Ala Met Lys Ala His Pro Gln Lys Ala Gly Val Gln Lys  
 500 505 510  
 Gln Ala Cys Met Leu Ile Arg Asn Leu Val Ala His Gly Gln Ala Phe  
 515 520 525  
 Ser Lys Pro Ile Leu Asp Leu Gly Ala Glu Ala Leu Ile Met Gln Ala  
 530 535 540  
 Arg Ser Ala His Arg Asp Cys Glu Asp Val Ala Lys Ala Ala Leu Arg  
 545 550 555 560  
 Asp Leu Gly Cys His Val Glu Leu Arg Glu Leu Trp Thr Gly Gln Arg  
 565 570 575  
 Gly Asn Leu Ala Pro  
 580

&lt;210&gt; 5113

&lt;211&gt; 472

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5113

cagactatgg tccagcctct gtcacatgtg cccctgtgg gtctttgtga tctcagtcct  
 60  
 ggcaccttga cccgctgctt gttctgctct cctttaaact ccatgcacct gacacctgta  
 120  
 attggcacgc agcgcggagc ctggcacctg cagtgtagac acactggcca cgcctcagtg  
 180  
 caagagggcc cctttgctaa tgtgcacagc tctttatgcc ttttttcccta tgcctttttg  
 240  
 gattggagca agagattttt tttccaagt aaagaacaat ttatgttcct aaatactttt  
 300  
 tttccttgac atgatgaagt tgagcaaggt ggctatagaa ctttttttct taattttatt  
 360  
 gcccaagtaa tgttctttac aaagtaggga aatacagata cataaaaaga agactgccaa  
 420  
 tccccgtaa tcccaccagt cgcaccccta cccgctctta ggagattccg ga  
 472

<210> 5114  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 5114  
 Met Val Gln Pro Leu Leu His Val Pro Pro Val Gly Leu Cys Asp Leu  
 1 5 10 15  
 Ser Pro Gly Thr Leu Thr Arg Cys Leu Phe Cys Ser Pro Leu Asn Ser  
 20 25 30  
 Met His Leu Thr Pro Val Ile Gly Thr Gln Arg Gly Ala Trp His Leu  
 35 40 45  
 Gln Cys Arg His Thr Gly His Arg Ser Val Gln Glu Gly Pro Phe Ala  
 50 55 60  
 Asn Val His Ser Ser Leu Cys Leu Phe Ser Tyr Ala Phe Leu Asp Trp  
 65 70 75 80  
 Ser Lys Arg Phe Phe Pro Ser Lys Glu Gln Phe Met Phe Leu Asn  
 85 90 95  
 Thr Phe Phe Pro  
 100

<210> 5115  
 <211> 1003  
 <212> DNA  
 <213> Homo sapiens

<400> 5115  
 nttttttttt tttttttttt tttttttttt tttttttttt ttttttttag ccacaaaaca  
 60  
 ttttatattac aaaatatata ctgaatacta tacatctggc cccatcacca tggaaacaac  
 120  
 tccaaagcct gcctggggat ttgtgcccaa gccagccca ggagggctag agaaagcaaa  
 180  
 ggtgtctacc agccgccgcc atcccagaag gaaagcctct tcccatgagt gcctgtgggt  
 240  
 gggcggtgag ctcaacaccc acaaaggcca gaaggcctgg gggcagtgag gtgatgggtga  
 300  
 gggcatggga agcagatgct gctgagggtg ggtggaggga gaaatggaga cccagcacc  
 360  
 agcaggggga gccaggtgac agcaggggaa gcagatggca gggccccagg cagtccagga  
 420  
 ccccaggctc tgaagggtgg ggcaaggggg tcaggtcacg tcttgacatc cagcagtggc  
 480  
 tccgcttggt ctggtagccc actctgccca gccatgtccc accttgggggt ctcccatgtc  
 540  
 agagagcagc tctgtctcag catcatgcag ttcctcagct gggtcatagc tgtacatggg  
 600  
 gagcaggtgc atgcgcagcc ggtccacccg ctttttcttc tgtacataca ttaccacagc  
 660  
 caccaccacc ccgaccaggg tgatgaggaa gaaggccccc aacacatagc ccaccatgga  
 720  
 gtcgctgttg gcctgggggg cattggggcac agtgggtgta ctcatgacat cagcagccgg  
 780

agggctgggt ggtcagcatg ggcagtggcg cttcgggagg gcgcctccac tgggctcccc  
 840  
 agtcgtatgc tcatcgcccc aggtcaaggg ggcattgccag ggtggggagg gcgtcaggcc  
 900  
 gctgctagga tgcgggccag caacagcgga ncaggaggtg gttccacagg cgctgggnag  
 960  
 gctcacgccg gaggtggggg tgttggggga tgctgatggg tcg  
 1003

<210> 5116  
 <211> 226  
 <212> PRT  
 <213> Homo sapiens

<400> 5116  
 Met Leu Leu Arg Val Gly Gly Gly Arg Asn Gly Asp Pro Ala Pro Ser  
 1 5 10 15  
 Arg Gly Ser Gln Val Thr Ala Gly Glu Ala Asp Gly Arg Ala Pro Gly  
 20 25 30  
 Ser Pro Gly Pro Gln Ala Leu Lys Gly Gly Ala Arg Gly Ser Gly His  
 35 40 45  
 Val Leu Thr Ser Ser Ser Gly Ser Ala Cys Ala Gly Ser Pro Leu Cys  
 50 55 60  
 Pro Ala Met Ser His Leu Gly Val Ser His Val Arg Glu Gln Leu Leu  
 65 70 75 80  
 Leu Ser Ile Met Gln Phe Leu Ser Trp Val Ile Ala Val His Gly Glu  
 85 90 95  
 Gln Val His Ala Gln Pro Val His Pro Leu Phe Leu Leu Tyr Ile His  
 100 105 110  
 Tyr His Ser His His His Pro Asp Gln Gly Asp Glu Glu Glu Gly Pro  
 115 120 125  
 Gln His Ile Ala His His Gly Val Ala Val Gly Leu Gly Gly Ile Gly  
 130 135 140  
 His Ser Gly Val Thr His Asp Ile Ser Ser Arg Arg Ala Gly Trp Ser  
 145 150 155 160  
 Ala Trp Ala Val Ala Leu Arg Glu Gly Ala Ser Thr Gly Leu Pro Ser  
 165 170 175  
 Arg Met Leu Ile Val Pro Gly Gln Gly Gly Met Pro Gly Trp Gly Gly  
 180 185 190  
 Arg Gln Ala Ala Ala Arg Met Arg Ala Ser Asn Ser Gly Xaa Gly Gly  
 195 200 205  
 Gly Ser His Gly Ala Gly Xaa Ala His Ala Gly Gly Gly Gly Val Gly  
 210 215 220  
 Gly Cys  
 225

<210> 5117  
 <211> 1180  
 <212> DNA  
 <213> Homo sapiens

<400> 5117  
 nngaattcaa cttgttcaag agaaggtctt gtacgtgcct aagttctaga gcctcctgac  
 60

gtgagcatgg ctgagagtga ggaccgctcc ctgaggatcg ttctggtagg gaaaactgga  
 120  
 agtgggaaaa gtgcaacagc gaacaccatc cttgggagagg aaatctttga ttctagaatt  
 180  
 gctgcccgaag ctgttaccaa gaactgtcaa aaagcatccc gggaatggca ggggagagac  
 240  
 cttcttggtg tagacactcc agggctcttt gacaccaagg agagcctgga caccacctgc  
 300  
 aaggaaatca gccgctgcat catctctctc tgcccagggc cccatgctat tgtcctagtt  
 360  
 ctgctgctgg gccgctacac agaggaggag cagaaaaccg ttgcattgat caaggctgtc  
 420  
 tttgggaagt cagccatgaa gcacatgggc atcttggtca ctgcgaaaga agagttggag  
 480  
 ggccagagct tccatgactt catagcagat gcggatgtgg gcctaaaaag catcgtcaag  
 540  
 gagtgcggga accgctgctg tgcccttagc aacagcaaga aaaccagtaa ggcagagaag  
 600  
 gaaagtcaag tgcaggagtt ggtggagctg atagagaaaa tgggtgcagtg caacgaaggg  
 660  
 gcttactttt ctgatgacat atacaaggac acagaggaaa ggctgaaaca acgggaagag  
 720  
 gttttgagga aaatctacac tgaccaatta aatgaagaaa ttaaactagt agaagaggat  
 780  
 aagcataaat cagaggaaga aaaggagaaa gaaattaaat tactaaaaat aaaatatgat  
 840  
 gaaaaataa aaaatataag ggaagaagct gagagaaata tatttaaaga tgtttttaat  
 900  
 aggatttgga agatgctttc agaaatatgg cataggtttt tgtcgaaatg taagttttat  
 960  
 tcttccta at tttactgtgat ttgttaatgg atgaattgta ttttgcaaag atagtttag  
 1020  
 aaatacctcc tttcccttag ctttattaag gtatcattga taaataaaaa taaatatgt  
 1080  
 ttaatgtata taatgtgatt tttaaatata tatatatata tatacacaca ttgtgaaata  
 1140  
 atgaaataaa ggtaattaac acatctaaaa aaaaaaaaaa  
 1180

&lt;210&gt; 5118

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5118

Met Ala Glu Ser Glu Asp Arg Ser Leu Arg Ile Val Leu Val Gly Lys  
 1 5 10 15  
 Thr Gly Ser Gly Lys Ser Ala Thr Ala Asn Thr Ile Leu Gly Glu Glu  
 20 25 30  
 Ile Phe Asp Ser Arg Ile Ala Ala Gln Ala Val Thr Lys Asn Cys Gln  
 35 40 45  
 Lys Ala Ser Arg Glu Trp Gln Gly Arg Asp Leu Leu Val Val Asp Thr  
 50 55 60  
 Pro Gly Leu Phe Asp Thr Lys Glu Ser Leu Asp Thr Thr Cys Lys Glu

65					70					75					80
Ile	Ser	Arg	Cys	Ile	Ile	Ser	Ser	Cys	Pro	Gly	Pro	His	Ala	Ile	Val
				85					90					95	
Leu	Val	Leu	Leu	Leu	Gly	Arg	Tyr	Thr	Glu	Glu	Glu	Gln	Lys	Thr	Val
				100					105					110	
Ala	Leu	Ile	Lys	Ala	Val	Phe	Gly	Lys	Ser	Ala	Met	Lys	His	Met	Val
				115					120					125	
Ile	Leu	Phe	Thr	Arg	Lys	Glu	Glu	Leu	Glu	Gly	Gln	Ser	Phe	His	Asp
				130					135					140	
Phe	Ile	Ala	Asp	Ala	Asp	Val	Gly	Leu	Lys	Ser	Ile	Val	Lys	Glu	Cys
145						150					155				160
Gly	Asn	Arg	Cys	Cys	Ala	Phe	Ser	Asn	Ser	Lys	Lys	Thr	Ser	Lys	Ala
				165						170					175
Glu	Lys	Glu	Ser	Gln	Val	Gln	Glu	Leu	Val	Glu	Leu	Ile	Glu	Lys	Met
				180					185					190	
Val	Gln	Cys	Asn	Glu	Gly	Ala	Tyr	Phe	Ser	Asp	Asp	Ile	Tyr	Lys	Asp
				195					200					205	
Thr	Glu	Glu	Arg	Leu	Lys	Gln	Arg	Glu	Glu	Val	Leu	Arg	Lys	Ile	Tyr
				210					215					220	
Thr	Asp	Gln	Leu	Asn	Glu	Glu	Ile	Lys	Leu	Val	Glu	Glu	Asp	Lys	His
225						230					235				240
Lys	Ser	Glu	Glu	Glu	Lys	Glu	Lys	Glu	Ile	Lys	Leu	Leu	Lys	Leu	Lys
				245						250					255
Tyr	Asp	Glu	Lys	Ile	Lys	Asn	Ile	Arg	Glu	Glu	Ala	Glu	Arg	Asn	Ile
				260					265					270	
Phe	Lys	Asp	Val	Phe	Asn	Arg	Ile	Trp	Lys	Met	Leu	Ser	Glu	Ile	Trp
				275					280					285	
His	Arg	Phe	Leu	Ser	Lys	Cys	Lys	Phe	Tyr	Ser	Ser				
				290					295					300	

&lt;210&gt; 5119

&lt;211&gt; 1450

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5119

nnaatgatga atatcaaaga ttaaagcact tcactaaatc ttgtattttt tcccaaaata

60

cagctggtga aaatcttata cttgagtaga aaggaatcaa acaagtcata taccaccgt

120

cttctgtct gtactggaac catcacaggc ttttgaggaa ctacttttga accgttcccc

180

agagaggcat ttgccccagt agctatgatt ataatttgca atgacagcca cagtgtttc

240

atccttctgg gcttctctaa caagccacat ttggagaaga tactttttng gatcattttt

300

attttttatt ttttgactct tgcaggaaat atgggtcatag ttcttgtgtc cttgaaggat

360

ccaaaactcc acatccctat gtatttcttt ctttccaacc tttccttggg agacctctgt

420

ttgaccagca gctgtgttcc acagatgttg attaacttct ggggccagca aaagaccatc

480

agctacattg gctgtgcat tcaactctat gtttttttgt ggcttggggc cacggaatat

540

gtccttcttg ttgtcatggc tgtggattgt tatgtagcag tgtgtcatcc actgcaaaat  
 600  
 accatgatca tgcacccaaa actttgtctg cagctggcta tcttggcatg ggggactggc  
 660  
 ttggcccagt ctctgatcca gtcccctgcc accctccggg tacccttctg ctcccagcgg  
 720  
 atgggtggatg atgttgtttg tgaagtccca gctctgattc agctctccag tactgatact  
 780  
 acctacagtg aaattcagat gtctatcgcc agtgttgtcc tcctgggtgat gcccttgatc  
 840  
 attatccttt cctcttctgg tgctattgct aaggctgtgc tgagaattaa gtcaactgca  
 900  
 ggacagaaga aagcatttgg cacctgcac ctcacacctc ttgtgggttc tctcttttat  
 960  
 ggcactgtca caggtgtcta ccttcaacca aaaaatcact atcctcatga atggggcaaa  
 1020  
 tttctcactc ttttctacac tgtagtaacc ccaactctta atcccccat ctacactcta  
 1080  
 aggaacaagg aggtaaagg agcactaata agattgggga ggaggacctg ggattcccag  
 1140  
 aataactaac aaggttaaca tatgtttacc ttgtctaac ctaagaatag agaacaacct  
 1200  
 catcacaaaa agctggagat acacctcta agccaaaagt aggagagaaa gagctgcatt  
 1260  
 ctgttcagggt tgagatttca gtttccttca tcaatcaatt gggcccttaa attcttcata  
 1320  
 ttgtggattt agacacagta tgggtataaaa attaatatat ttaatagcta ttgtcttgaa  
 1380  
 aaggacacaa tgcaattgaa tggggggagga ggagaagaca caagaaacac attacttgca  
 1440  
 aaataaaata  
 1450

&lt;210&gt; 5120

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5120

Met	Ile	Ile	Ile	Cys	Asn	Asp	Ser	His	Ser	Asp	Phe	Ile	Leu	Leu	Gly
1				5					10					15	
Phe	Ser	Asn	Lys	Pro	His	Leu	Glu	Lys	Ile	Leu	Phe	Xaa	Ile	Ile	Phe
		20						25					30		
Ile	Phe	Tyr	Phe	Leu	Thr	Leu	Ala	Gly	Asn	Met	Val	Ile	Val	Leu	Val
		35					40				45				
Ser	Leu	Lys	Asp	Pro	Lys	Leu	His	Ile	Pro	Met	Tyr	Phe	Phe	Leu	Ser
	50				55					60					
Asn	Leu	Ser	Leu	Val	Asp	Leu	Cys	Leu	Thr	Ser	Ser	Cys	Val	Pro	Gln
65				70					75					80	
Met	Leu	Ile	Asn	Phe	Trp	Gly	Pro	Glu	Lys	Thr	Ile	Ser	Tyr	Ile	Gly
		85						90					95		
Cys	Ala	Ile	Gln	Leu	Tyr	Val	Phe	Leu	Trp	Leu	Gly	Ala	Thr	Glu	Tyr
	100						105					110			
Val	Leu	Leu	Val	Val	Met	Ala	Val	Asp	Cys	Tyr	Val	Ala	Val	Cys	His

115 120 125  
 Pro Leu Gln Asn Thr Met Ile Met His Pro Lys Leu Cys Leu Gln Leu  
 130 135 140  
 Ala Ile Leu Ala Trp Gly Thr Gly Leu Ala Gln Ser Leu Ile Gln Ser  
 145 150 155 160  
 Pro Ala Thr Leu Arg Leu Pro Phe Cys Ser Gln Arg Met Val Asp Asp  
 165 170 175  
 Val Val Cys Glu Val Pro Ala Leu Ile Gln Leu Ser Ser Thr Asp Thr  
 180 185 190  
 Thr Tyr Ser Glu Ile Gln Met Ser Ile Ala Ser Val Val Leu Leu Val  
 195 200 205  
 Met Pro Leu Ile Ile Ile Leu Ser Ser Ser Gly Ala Ile Ala Lys Ala  
 210 215 220  
 Val Leu Arg Ile Lys Ser Thr Ala Gly Gln Lys Lys Ala Phe Gly Thr  
 225 230 235 240  
 Cys Ile Ser His Leu Leu Val Val Ser Leu Phe Tyr Gly Thr Val Thr  
 245 250 255  
 Gly Val Tyr Leu Gln Pro Lys Asn His Tyr Pro His Glu Trp Gly Lys  
 260 265 270  
 Phe Leu Thr Leu Phe Tyr Thr Val Val Thr Pro Thr Leu Asn Pro Leu  
 275 280 285  
 Ile Tyr Thr Leu Arg Asn Lys Glu Val Lys Gly Ala Leu Ile Arg Leu  
 290 295 300  
 Gly Arg Arg Thr Trp Asp Ser Gln Asn Asn  
 305 310

&lt;210&gt; 5121

&lt;211&gt; 944

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5121

nngcgcgcca ggggagggcg ccgtgtggca ctcggcggtc gaaaggggag ttcaaggaga  
 60  
 cgggggcgac gcggctgagg gcttctcgtc ggggtcgggg ctgcagccgt catgccgggg  
 120  
 atagtggagc tgcccactct agaggagctg aaagtagatg aggtgaaaat tagttctgct  
 180  
 gtgcttaaag ctgcggccca tcactatgga gctcaatgtg ataagcccaa caaggagttt  
 240  
 atgctctgcc gctgggaaga gaaagatccg aggcgggtgt tagaggaagg caaactggtc  
 300  
 aacaagtgtg ctttggactt ctttaggcag ataaaacgtc actgtgcaga gccttttaca  
 360  
 gaattattgga cttgcattga ttatactggc cagcagttat ttcgtcactg tcgcaaacag  
 420  
 caggcaaagt ttgacgagtg tgtgctggac aaactgggct ggggtcggcc tgacctggga  
 480  
 gaactgtcaa aggtcaccaa agtgaaaaca gatcgacctt taccggagaa tccctatcac  
 540  
 tcaagaccaa gaccggatcc cagccctgag atcgagggag atctgcagcc tgccacacat  
 600  
 ggcagccgct tttatttctg gaccaagtaa agatgggtcc gtggcccaca ctcggtcatg  
 660



tgctcagaca acgactgatg aaaacgcccc tgcggtttgc atcgactgat agtgtgttct  
 720  
 ttccgggatc acaaacatta acaaaaaagt taacttatgt gacttggcag ttattctata  
 780  
 ccatttcctg tccattaaaa tttttaaagg aaacggttgt attttattat gttttatgtg  
 840  
 accttttggc ctttaaagat gacttcccct tgcttttttc ttcttgtggt cctgcctgtt  
 900  
 cctcttgctt tgcttttaggc actcgctcat gtggctgggg atcc  
 944

<210> 5122

<211> 172

<212> PRT

<213> Homo sapiens

<400> 5122

Met	Pro	Gly	Ile	Val	Glu	Leu	Pro	Thr	Leu	Glu	Glu	Leu	Lys	Val	Asp
1				5					10					15	
Glu	Val	Lys	Ile	Ser	Ser	Ala	Val	Leu	Lys	Ala	Ala	Ala	His	His	Tyr
			20					25					30		
Gly	Ala	Gln	Cys	Asp	Lys	Pro	Asn	Lys	Glu	Phe	Met	Leu	Cys	Arg	Trp
		35				40					45				
Glu	Glu	Lys	Asp	Pro	Arg	Arg	Cys	Leu	Glu	Glu	Gly	Lys	Leu	Val	Asn
	50					55					60				
Lys	Cys	Ala	Leu	Asp	Phe	Phe	Arg	Gln	Ile	Lys	Arg	His	Cys	Ala	Glu
65				70					75					80	
Pro	Phe	Thr	Glu	Tyr	Trp	Thr	Cys	Ile	Asp	Tyr	Thr	Gly	Gln	Gln	Leu
			85					90					95		
Phe	Arg	His	Cys	Arg	Lys	Gln	Gln	Ala	Lys	Phe	Asp	Glu	Cys	Val	Leu
			100					105				110			
Asp	Lys	Leu	Gly	Trp	Val	Arg	Pro	Asp	Leu	Gly	Glu	Leu	Ser	Lys	Val
		115				120					125				
Thr	Lys	Val	Lys	Thr	Asp	Arg	Pro	Leu	Pro	Glu	Asn	Pro	Tyr	His	Ser
	130				135						140				
Arg	Pro	Arg	Pro	Asp	Pro	Ser	Pro	Glu	Ile	Glu	Gly	Asp	Leu	Gln	Pro
145				150					155					160	
Ala	Thr	His	Gly	Ser	Arg	Phe	Tyr	Phe	Trp	Thr	Lys				
			165						170						

<210> 5123

<211> 1139

<212> DNA

<213> Homo sapiens

<400> 5123

nngtgcacaa ccactgtctt cccgtggcct cactgcccc ttgccctagg gcccttcct  
 60  
 tggctctgtg ccagcctcgg gggacctcag gctcaccaac tctgaggctg agagttccaa  
 120  
 agccatagga tagatcctgg agcttccttg agcctgtttt cttgcctggg agttagccat  
 180  
 gccttgtggg gctgccaaga gggtaaagta gagagatggg tctagcttga tacagtatag  
 240

gcagctgctg gatgtcagct gtggttatga tcagctccat cttgttatga tgaagaccct  
 300  
 gaggtcagag tggaccccac cccaaagccc catctggcag ctcacagctg ctctctccta  
 360  
 cagaaacagg cttgcatgct gatccgaaac ctggtggccc acggccaggc cttctcgaag  
 420  
 cccatcctgg acctgggggc tgaggcactc atcatgcagg cccgatctgc ccaccgtgac  
 480  
 tgtgaggacg tggccaaggc cgccctgcgg gacctgggtt gtcatgtcga gctccgagag  
 540  
 ctgtggacag gccagagggg caacctggcg ccatgacccc aggccagtc tgggccgtga  
 600  
 ctctgggtga gtcgtgtgac tcaggaatgg gggtagatcc atgtcctcca ctgtcccca  
 660  
 ttagttctgt ccccttcaca atgagaagtg ttttctggca ggccctaggt aaagggtcgg  
 720  
 gggagggggg agccttgtag ggaggcctct acacagaaga aagcagcccc catgtcccag  
 780  
 ccacttctgg gtcccagcca gcagcacgga tgttactgtc ctgtccttc cccagcccc  
 840  
 acgccctacc agagggggca aagggcacgt cccatcactc actgccctgt ctgaaatgtg  
 900  
 gcagccactg tgggccaggc tcagggcagg gcaggcgatt ccagtggggg tgggccccct  
 960  
 ggcgcctgct gcttactgca gtttcatgca ggcctctgct ccttgtcttt cttacctgta  
 1020  
 aaatgggtct cagatgtctc gccctgcttg gcccagctt gtctgtctct gggctcctggg  
 1080  
 ccagccagga tacctgataa taaaagatca ttgggtgaaa aaaaaaaaaa aaaaaaaaaa  
 1139

&lt;210&gt; 5124

&lt;211&gt; 101

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5124

Ser	Ala	Pro	Ser	Cys	Tyr	Asp	Glu	Asp	Pro	Glu	Val	Arg	Val	Asp	Pro
1				5					10					15	
Thr	Pro	Lys	Pro	His	Leu	Ala	Ala	His	Ser	Cys	Ser	Leu	Leu	Gln	Lys
		20						25					30		
Gln	Ala	Cys	Met	Leu	Ile	Arg	Asn	Leu	Val	Ala	His	Gly	Gln	Ala	Phe
	35					40					45				
Ser	Lys	Pro	Ile	Leu	Asp	Leu	Gly	Ala	Glu	Ala	Leu	Ile	Met	Gln	Ala
	50				55					60					
Arg	Ser	Ala	His	Arg	Asp	Cys	Glu	Asp	Val	Ala	Lys	Ala	Ala	Leu	Arg
65				70					75					80	
Asp	Leu	Gly	Cys	His	Val	Glu	Leu	Arg	Glu	Leu	Trp	Thr	Gly	Gln	Arg
			85					90						95	
Gly	Asn	Leu	Ala	Pro											
			100												

&lt;210&gt; 5125

&lt;211&gt; 6244

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5125

ngcccacccg atccaggacc acaccattca tggggatcat agataaaaca gcacggactc  
60  
agcagtaccc ccacctccac cagcagaatc ggacctgggc agtgtcatct gtggacaccg  
120  
tcctcagtcc cacgtctcca ggcaacctgc ctcagcctga gtccttcagt ccaccatcat  
180  
ccatcagcaa cattgccttt tataacaaaa ccaacaatgc acagaatggc catttgctgg  
240  
aggacgatta ttacagcccc catgggatgc tggctaacgg gtctcgtgga gacctcttgg  
300  
agcgagtcag ccaggcctcc tcctatcccc acgtgaaggt agctcggact ctacctgtgg  
360  
ctcaggcata ccaggacaac ctgtacaggc agctgtcccc agactctcgg caagggcaga  
420  
cateccctat caaaccaaag agaccgttcg tggagtctaa tgtttaaaag acgttttgtt  
480  
ggagtgagac ccatatgttt tcaactgcaca ttttcaggct tggtttccac attcgaggta  
540  
gttctctggc ttaatttctc atgtagtctc tgtgtggtgt tcagagggtg cagcccacat  
600  
gctgaaatcc tttgcatgca gccgactggg aagcggcctc ccgggagcca ggacttcagt  
660  
ttctcttgtc tgtgcccagc cacatgctct ctccctctct tcagatgcca acgaggagat  
720  
tttcgtgctg tgtgctttaa cccagggaga tcagacacac tggtcagctt tttccaggag  
780  
acaatcgctt tcaactgatgt tcttgttgtg taattgtctt tttccttttt taaaaataa  
840  
ggtgttcttg ttcgttttct tctagaaact ttagaaagag tgcgatgccc ctttgccttt  
900  
gcatecttag ccagtgtcac ccacacagcc agccgcagcg cattctcatg ctgtggcccc  
960  
tcccagacc gccagcggc tgcagccacc aggtctgcag tgtgcattag gattattgct  
1020  
ggtcttctta gggggtaaaa ggatcagaga gagaagaatt aagtgtctaa ttggaagaaa  
1080  
acccaatat agttatgtaa aatgtcacta cattgatttt ccaagaggca ttgtaggaa  
1140  
atgtcaaaaa cagccagccc tttaaattatt gcagtcagcc aaggaaatta gatgagaatt  
1200  
gtggctatta agagaattca ctgagagtta ttctctagat ttttagccga caattaacca  
1260  
ctaaaagctg ctgcttttcc aggggtggggg aggggaatgaa tacatagaaa aacaaaaaag  
1320  
attgttctgg attctcagt aaaggctata ggaagtctgt tctggagaca tctacttttt  
1380  
agatcctgat acatcactga gtgtcactt ccactaaaag gaaactctaa ccgaaggctg  
1440  
gctgggtgtg caatcccgtt agttggatct tcacctacag ccagattttg ctctagtggc  
1500

cctcttcctg taaaccaga tggcgtcata cagaaattgt ttctttcaga agcagattgg  
1560  
aatctcttgg gaccatgaga ctgagtccca atatttccac ccagggtcat gcccgttgtt  
1620  
gtctacttcc attttgagat ctatagtttg attatctatt attacaggaa ctgtttcttt  
1680  
tctttttcta ggagtgttta tgagagtgtg atattttaaa gtcagacgca gcaaaaactg  
1740  
tttcagggtg aagaaagacc cttttcagcc ctgttttgca gccctgggtg ggggcatgag  
1800  
atagacagca agcttctgat cttgaagctt gtctagaaga cacatcttct aggtctcgtg  
1860  
gtcatttggg aggctgacct ttgagtgagc gaggccacta ttgagtggat agcaagaaca  
1920  
ttggaaccaa agcctcggca caggcctggc actggctgta catcagctct tacaactaaa  
1980  
caactcaact aagcaactga aacgaaacaa aggagcattc gttctctgtt gttaggaatc  
2040  
attctgctct gttaggggaag ggctgcagga agggcagttt cctgaataaa aatctggctg  
2100  
cgaccagtc catgtgtctg gtaagtaagt aagtaagtaa gtgcccttg aagggatcat  
2160  
taagacacag ggagcatgaa cctgagatca gaagcatttc tttactaatt tagattctgc  
2220  
gaaatagacg gacctctcca ccccaaac taaaacaggc caggacttgt ctctgtgctg  
2280  
aaagcaaata gcaagactaa ctcaagcccc agcctcttcc cactctcct gatacctaag  
2340  
gactgcttcc tcagctagac cagggtgggc atcagcgacg ccttctcagc tagaccaggg  
2400  
taggcatcag cgctctctct ccatctctat accctctct ctcacatcag gaagatgaaa  
2460  
tgtgtagctc tagcggcaac ctctagccag gagccagtg gcctctcaga ttgctttttg  
2520  
gccaggtctc agcactgctg gcatctttac atcttactcc taaaaccgc ctctcgctga  
2580  
ggagccactg ctttttgaag aatttctcag tgtctgtcag gaaagtactc ctgctcattt  
2640  
ggaacgccac acaccacccg cactcacctg tccaggcgaa tgagcaggtc ctgtagcttt  
2700  
acaaatatgc cgctgatgcc gcttctcccc agggctctct agttttccag gacaaaaaga  
2760  
tttagggcct ataccctatg ggcaaacac ctaaaatgtc aacagtcaaa atgccattct  
2820  
ttttggccat cataagaggg agtaggtatc actgctgcat gccagttgtt tttgactaga  
2880  
atatgccaac cagagcttgt tggggcagga gacgtttttc cttacaagca gactgcctgt  
2940  
gccctgtgcc ctgtttgcta cttcactgcc atggaatgat ccgagtactg tttttcagag  
3000  
ctgccccttc ccagcagca aacactcgtg gagtccatgt ctggcttcag gtgggaggaa  
3060  
atgtttcaga tgaaacttac tcaattcata ccaccctgaa atggaggaca gaggtgacaa  
3120

acttcagttt aataggtttc tcaccaagtt gtatgttcca ttggcccagg attcttgac  
3180  
taatgggttt ctatcacatc atgtctataa atgggtgcac ttactgttt gaatttgtaa  
3240  
ctgaagtact ggatatttaa gtgtgagtaa tgtcttcatt agaaaatagc agaaccgctc  
3300  
ttgtctttta gtgtattttt caagaaaaaa ggaaaggaaa gacatcaagc agtggatcac  
3360  
aacatttata gcacaagaaa taacttgat ataagcatca aaaagattaa gaatttttta  
3420  
atatgaaaaa tatttgagc gatttttaaag tgcttttcca gcaatgttct tagggactcc  
3480  
tgagacacgg ttactttatc tactggatca gtaaggcaca caattaacaa ttaacaatta  
3540  
atgtttattt acaaagtaaa gggaaaacct gtgtaacatg agaatttggc atgacaaaat  
3600  
ggagaccatt ttgtatctgc tgttgtatct tgtccgggtt gcagacgtgc actattaaag  
3660  
tcccaagtta atagagcaca aacccttctc gctcctcccc catgtgcccc tctttttaga  
3720  
tgtgtataac ttaaaactcga tggctcagga aaattccact aattagaatc atgtacagta  
3780  
ccccaggctg ttgtccagat atacaagttt gctaagttag ttaagcctgg attattaaac  
3840  
acttttcta aattattgta aacagaacag cttagagaaa ggtattctca gtccttaata  
3900  
ttgtatagta gtttatgagc ccctctctaa atattggtat ttttatattc cagagatgta  
3960  
cccaatagaa aaaattaaaa attaatacgt atctaattta atatccataa gtatttttcc  
4020  
ttagatttta gtcacgtaca gtgggctatg tggatgtcac ttgtgcttca ccatagttta  
4080  
ccactagggtg tcaactgtggc tctgcactgc gcttgttttg tagcaaagaa cagcggcatc  
4140  
ccctcgggag agaggagctg cttccagggc aacaggcaag cgggctcaga ggttcaggag  
4200  
aaggcaacag aggcctggaa ggggtcttcg tgcactctgt ccagttgtgc aagacgatct  
4260  
ctttgaacac tacatgcttt ggacttcagc caggcagagg ctggaagaag gttgaccaga  
4320  
gctcccttgc tctggtagag ggatgggtac atggagaagc cccttcttcc ccatgagcct  
4380  
ccctcctgtc agttcctctc agcctccagc ttttataact ccagaagcgt cacagttggg  
4440  
tggtttgatt cagagagagt tatttttcta ctgcagaaat gccttggaca aaaccagtgc  
4500  
tcaactgaatc tttgccacaa aatggaatag gctatcccag ggggcaagag gtgcccgcce  
4560  
ctgtgcccag cctcctcttg atgctcccag tgcccagcag cctcgcacac cctgcctgtc  
4620  
tgttcctggg ctgcccattt ctcaagaaac cgacctgcaa aggcagccgg ctgctgcctc  
4680  
cacaccgagg gctgtgcggt cctgctgctc gctcactggg aggtgcagct ctttctctc  
4740

ttcctctagg aattccagac cgaccatcta ccatgactaa caacaatgaa caaagggctt  
4800  
aggggcaaga gctacctgca aagacgtgtc atggaaccct tcaccatgca atgccttgaa  
4860  
ctcagctctg gctgctccca agaaaagggtg gctggctggg ggcttgaca caagcacaat  
4920  
ggggctgggt gagccactgt gcagagctac ttgaataatc actgggtttt catcaactcc  
4980  
ttttgtcata cagaccactc aagggtgaa gtgttggtta cttcatttc ggtgtccaaa  
5040  
gcctcacagc aggtgagcca ccctgagatg cttgtggcca catggtggcc acagtacagag  
5100  
ctttgaaagt cagtaccaa tgaacgcata attggacacc aaaaatcaag tgttactttc  
5160  
atgtttcttc accccatcat ctcatgtcct cctgctgact ctgataccga cgtgagctg  
5220  
acttgccagg ctgccgctgg acgcgtagag atcaggccag cgccgcgctc atttttccag  
5280  
gtagacctac tctgtggaac ggaagtgcc tagctgcttt gttttttag cacttgctgg  
5340  
ctgaattttt cttttgctaa tcgctaacca gaaagtctgg ttagaggggg ctcaactcaa  
5400  
tcccttttgt ccccgcgcc agacaagagt taattctgga aaattcagta cttgaatgta  
5460  
cctgccttat tgcataccaa tttactgggg ggaaaaaaaa agttaagaga tgccggctcc  
5520  
agatctccac ttcattcaca ggtgattttg gaaatcctgt aagttacact tctgttctg  
5580  
gttttgtttt gttttttgtt tcttttggt gattcctgct gagtgaggcc agttcctcat  
5640  
caggctcagg gcagggtgct tttcaggcgt ggctccttt ccatctagca cagcatcttt  
5700  
gtctctgttc tgtctcctcc aaatccaaga tgattttaat tagtacagac atgtacagtc  
5760  
tacaattaa gagtgatttg tactaatatg attttgattc ttcctcctct ttgctgtcct  
5820  
ttcaagacac ttgctggaaa aagctttaat gcacttagtt ttcctttagg ttttctatga  
5880  
ctcagatgta aaggactttc tctgtacagt atattatcca atgcatgttt gttctctctc  
5940  
ctgatataatt gaacaccaca cagtgtgtaa gccgtgcagt ggggatgccc cacacccac  
6000  
agaggcatct acccctgtgt ataaggaaag acattttcct ttgctgtact tgcttgagca  
6060  
gttttattgt ctgtacatgt gagctgtgtg agatagatgt gaaaagttca aatgaatgca  
6120  
ttttcctgcc ccatgtatac agattgtcat ctgtacaagg aactgtatgt atgaaagcaa  
6180  
atgtacttat ttataaatgg ctaacacttg gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
6240  
aaaa  
6244

&lt;210&gt; 5126

<211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 5126  
 Met Phe Lys Arg Arg Phe Val Gly Val Arg Pro Ile Cys Phe His Cys  
 1 5 10 15  
 Thr Phe Ser Gly Leu Val Ser Thr Phe Glu Val Val Leu Trp Leu Asn  
 20 25 30  
 Phe Ser Cys Ser Phe Cys Val Val Phe Arg Gly Gly Ser Pro His Ala  
 35 40 45  
 Glu Ile Leu Cys Met Gln Pro Thr Gly Lys Arg Pro Pro Gly Ser Gln  
 50 55 60  
 Asp Phe Ser Phe Ser Cys Leu Cys Pro Ala Thr Cys Ser Leu Pro Leu  
 65 70 75 80  
 Phe Arg Cys Gln Arg Gly Asp Phe Arg Ala Val Cys Phe Asn Pro Gly  
 85 90 95  
 Arg Ser Asp Thr Leu Val Ser Phe Phe Gln Glu Thr Ile Ala Phe Thr  
 100 105 110  
 Asp Val Leu Val Val  
 115

<210> 5127  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

<400> 5127  
 ggtaccgcgc caatgcctct cgggaggccc tgcggaccgg ctctgggggtg cgttttcccg  
 60  
 agttcgtcca gtacctgctg gacgtgcacc ggcccgtggg gatggacatt cactgggacc  
 120  
 atgtcagccg gctctgcagc ccctgcctca tcgactacga tttcgtaggc aagttcgaga  
 180  
 gcatggagga cgatgccaac ttcttctga gcctcatccg cgcgccgcgg aacctgacct  
 240  
 tcccccggtt caaggaccgg cactcgcagg aggcgcggac cacagcgagg atcgcccacc  
 300  
 agtacttcgc ccaactctcg gccctgcaa ggcagcgac ctacgacttc tactacatgg  
 360  
 attacctgat gttcaactat tccaagccct ttgcagatct  
 400

<210> 5128  
 <211> 55  
 <212> PRT  
 <213> Homo sapiens

<400> 5128  
 Gly Thr Ala Pro Met Pro Leu Gly Arg Pro Cys Gly Pro Ala Leu Gly  
 1 5 10 15  
 Cys Val Phe Pro Ser Ser Ser Ser Thr Cys Trp Thr Cys Thr Gly Pro  
 20 25 30  
 Trp Gly Trp Thr Phe Thr Gly Thr Met Ser Ala Gly Ser Ala Ala Pro

35 40 45  
 Ala Ser Ser Thr Thr Ile Ser  
 50 55

<210> 5129  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

<400> 5129  
 accggtgaac aggatcccc aggaaatggg gaggaagcct agagagaagg gccagatcgt  
 60  
 aggccaaagac ccccgctgt gtctctgttc actggcagcg gagcgaggag agaggtgtgg  
 120  
 gctgacctga aaccagcacc tcctgtgtcc ccagctgagc cctgcacggg attggccaaa  
 180  
 tgtgctgctc tgcggcgcgc ctgctgcccc cccctgggt ggagctgggg tctgggacag  
 240  
 tgaagatggc tccacagct gaggggcact gggtgccaag agcctgccag accctggggc  
 300  
 acccagaaac atgctctgat agtgcagctg tgagcactgg cctgcgtccc ctccaccag  
 360  
 ccgacctatg aggctcaggg tgcttggggg cccatcaagg acatagtcct agctgccgac  
 420  
 tcatccaggc agcctgcaca acccctggct cccctccacc ggccacctgc cccctgcac  
 480  
 aggcaggatc cggcctcgcc caccacagg cctgcacctc cgggcccacg gcagcaagat  
 540  
 tcctatcttg gggatgcttt cctccctttg ccgagagacc cccccccc acaccttgcc  
 600  
 tctcttcaag gagccgaaaa tgcagctgcc gactgatttg ctgtggagct aaaaataact  
 660  
 gccgggctcc agccagggcc caggaaaata tcccattgct aggagacaac cgttgccggg  
 720  
 agaccgccat tgctaggcga cgcgt  
 745

<210> 5130  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 5130  
 Met Ala Val Ser Arg Gln Arg Leu Ser Pro Ser Asn Gly Ile Phe Ser  
 1 5 10 15  
 Trp Ala Leu Ala Gly Ala Arg Gln Leu Phe Leu Ala Pro Gln Gln Ile  
 20 25 30  
 Ser Arg Gln Leu His Phe Arg Leu Leu Glu Glu Arg Gln Gly Val Gly  
 35 40 45  
 Gly Val Gly Leu Ser Ala Lys Gly Gly Lys His Pro Gln Asp Arg Asn  
 50 55 60  
 Leu Ala Ala Val Gly Pro Glu Val Gln Ala Cys Gly Trp Ala Arg Pro  
 65 70 75 80  
 Asp Pro Ala Cys Ala Gly Gly Gln Val Ala Gly Gly Gly Glu Pro Gly



	85		90		95									
Val	Val	Gln	Ala	Ala	Trp	Met	Ser	Arg	Gln	Leu	Gly	Leu	Cys	Pro
	100							105					110	

<210> 5131  
 <211> 789  
 <212> DNA  
 <213> Homo sapiens

<400> 5131  
 atgaggaaacc tgcagctcag gttcgagaag ggccgcatct acacctacat cggtgaggtg  
 60  
 ctggtgtccg tgaaccacct ccaggagctg cccctgtatg ggcttgaggc catcgcccag  
 120  
 taccagggcc gtgagctcta tgagcggcca ccccatctct atgctgtggc caacgccgcc  
 180  
 tacaaggcaa tgaagcaccg gtccaggagc acctgcatcg tcattctcagg ggagagtggg  
 240  
 gcaggggaaga cagaagccag taagcacatc atgcagtaca tcgctgtctg caccaatcca  
 300  
 agccagaggg ctgaggtgga gagggtaag gacgtgtctg tcaagtccac ctgtgtgctg  
 360  
 gaggcctttg gcaatgcccg caccaaccgc aatcacaact ccagccgctt tggcaagtac  
 420  
 atggacatca actttgactt caagggggac cccatcgagg gacacatcca cagctaccta  
 480  
 ctggagaagt ctgggtcctt caagcagcac gtgggtgaaa gaaacttcca cgccttctac  
 540  
 caattgctga gaggcagtga ggacaagcag ctgcatgaac tgcacttgga gagaaaccct  
 600  
 gctgtataca atttcacaca ccaggagca ggactcaaca tgactgtgca cagtgccttg  
 660  
 gacagtgatg agcagagcca ccaggcagtg accgaggcca tgagggcatc cggcttcagt  
 720  
 cctgaagagg tggagtctgt gcatcgcac ctggctgcca tattgcacct gggaaacatc  
 780  
 gagtttctg  
 789

<210> 5132  
 <211> 263  
 <212> PRT  
 <213> Homo sapiens

<400> 5132  
 Met Arg Asn Leu Gln Leu Arg Phe Glu Lys Gly Arg Ile Tyr Thr Tyr  
 1 5 10 15  
 Ile Gly Glu Val Leu Val Ser Val Asn Pro Tyr Gln Glu Leu Pro Leu  
 20 25 30  
 Tyr Gly Pro Glu Ala Ile Ala Gln Tyr Gln Gly Arg Glu Leu Tyr Glu  
 35 40 45  
 Arg Pro Pro His Leu Tyr Ala Val Ala Asn Ala Ala Tyr Lys Ala Met  
 50 55 60  
 Lys His Arg Ser Arg Asp Thr Cys Ile Val Ile Ser Gly Glu Ser Gly

```
<210> 5133
<211> 581
<212> DNA
<213> Homo sapiens
```

<210> 5134

&lt;211&gt; 157

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5134

```

Met Asn Arg Phe Asp Arg Pro Asp Arg Asn Val Arg Gln Pro Gln Glu
 1           5           10           15
Gly Phe Trp Lys Arg Pro Pro Gln Arg Trp Ser Gly Gln Glu His Tyr
      20           25           30
His Leu Ser His Pro Asp His Tyr His His His Gly Lys Ser Asp Leu
      35           40           45
Ser Arg Gly Ser Pro Tyr Arg Glu Ser Pro Leu Gly His Phe Glu Ser
      50           55           60
Tyr Gly Gly Met Pro Phe Phe Gln Ala Gln Lys Met Phe Val Asp Val
65           70           75           80
Pro Glu Asn Thr Val Ile Leu Asp Glu Met Thr Leu Arg His Met Val
      85           90           95
Gln Asp Cys Thr Ala Val Lys Thr Gln Leu Leu Lys Leu Lys Arg Leu
      100          105          110
Leu His Gln His Asp Gly Ser Gly Ser Leu His Asp Ile Gln Leu Ser
      115          120          125
Leu Pro Ser Ser Pro Glu Pro Glu Asp Gly Asp Lys Val Tyr Lys Asn
      130          135          140
Glu Asp Leu Leu Asn Glu Ile Lys Gln Leu Lys Asp Glu
145          150          155

```

&lt;210&gt; 5135

&lt;211&gt; 1696

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5135

```

nnctgcgagc gcctgccccca tgcgcgcgcgc cctctccgca cgatgttccc ctgcgggagg
60
aaagcggcgc agctgccttg ggaggacggc aggtccgggt tgctctccgg cggcctccct
120
cggaagtgtt ccgtcttcca cctgttcgtg gcctgcctct cgctgggctt cttctcccta
180
ctctggctgc agctcagctg ctctggggac gtggcccggg cagtcagggg acaagggcag
240
gagacctcgg gccctccccg cgctgcccc ccagagccgc ccctgagca ctgggaagaa
300
gacgcatact ggggccccca ccgcctggca gtgctggtgc cttccgcga acgcttcgag
360
gagctcctgg tcttcgtgcc ccacatgcgc cgcttcctga gcaggaagaa gatccggcac
420
cacatctacg tgctcaacca ggtggaccac ttcaggttca accgggcagc gtcatacaac
480
gtgggcttcc tggagagcag caacagcacg gactacattg ccatgcacga cgttgacc'g
540
ctccctctca acgaggagct ggactatggc tttcctgagg ctggggccctt ccacgtggcc
600
tccccggagc tccacctct ctaccactac aagacctatg tcggcggcat cctgctgctc
660

```

tccaagcagc actaccggct gtgcaatggg atgtccaacc gcttctgggg ctggggccgc  
 720  
 gaggacgacg agttctaccg gcgcattaag ggagctgggc tccagctttt ccgccccctg  
 780  
 ggaatcaciaa ctgggtacaa gacatttcgc cacctgcacg acccagcctg gcggaagagg  
 840  
 gaccagaagc gcatcgcagc tcaaaaacag gagcagttca aggtggacag ggagggaggc  
 900  
 ctgaacactg tgaagtacca tgtggcttcc cgcactgccc tgtctgtggg cggggccccc  
 960  
 tgcactgtcc tcaacatcat gttggactgt gacaagaccg ccacaccctg gtgcacattc  
 1020  
 agctgagctg gatggacagt gaggaagcct gtacctacag gccatattgc tcaggctcag  
 1080  
 gacaaggcct caggtcgtgg gccagctct gacaggatgt ggagtggcca ggaccaagac  
 1140  
 agcaagctac gcaattgcag ccacccggcc gccaaaggcag gcttgggctg ggccaggaca  
 1200  
 cgtgggggtgc ctgggacgct gcttgccatg cacagtgate agagagaggc tgggggtgtgt  
 1260  
 cctgtccggg accccccctg cttctctgct caccctactc tgacctcctt cactgcccc  
 1320  
 ggctgtggg tagtggggag ggctgaacag gacaacctct catcaccccc acttttgttc  
 1380  
 cttctgtctg ggctgcctcg tgcagagaca cagtgtaggg gccatgcagc tggcgtaggt  
 1440  
 ggcagttggg cctggtgagg gttaggactt cagaaaccag agcacaagcc ccacagaggg  
 1500  
 ggaacagcca gcaccgctct agctggttgt tgccatgccg gaatgtgggc ctagtgttgc  
 1560  
 cagatcttct gatttttctga aagaaactag aatgctggat tcttaagtga tatcttctga  
 1620  
 ttttttaaat gatagcacct aaatgaaact ttcaaaaagt atggcaggcc agacaaaaaa  
 1680  
 aaaaaaaaaa aaaaaa  
 1696

&lt;210&gt; 5136

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5136

Xaa	Cys	Glu	Arg	Leu	Pro	His	Ala	Pro	Pro	Pro	Leu	Arg	Thr	Met	Phe
1				5				10						15	
Pro	Ser	Arg	Arg	Lys	Ala	Ala	Gln	Leu	Pro	Trp	Glu	Asp	Gly	Arg	Ser
				20				25					30		
Gly	Leu	Leu	Ser	Gly	Gly	Leu	Pro	Arg	Lys	Cys	Ser	Val	Phe	His	Leu
				35			40					45			
Phe	Val	Ala	Cys	Leu	Ser	Leu	Gly	Phe	Phe	Ser	Leu	Leu	Trp	Leu	Gln
				50			55				60				
Leu	Ser	Cys	Ser	Gly	Asp	Val	Ala	Arg	Ala	Val	Arg	Gly	Gln	Gly	Gln
65					70					75				80	
Glu	Thr	Ser	Gly	Pro	Pro	Arg	Ala	Cys	Pro	Pro	Glu	Pro	Pro	Pro	Glu

85 90 95  
 His Trp Glu Glu Asp Ala Ser Trp Gly Pro His Arg Leu Ala Val Leu  
 100 105 110  
 Val Pro Phe Arg Glu Arg Phe Glu Glu Leu Leu Val Phe Val Pro His  
 115 120 125  
 Met Arg Arg Phe Leu Ser Arg Lys Lys Ile Arg His His Ile Tyr Val  
 130 135 140  
 Leu Asn Gln Val Asp His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn  
 145 150 155 160  
 Val Gly Phe Leu Glu Ser Ser Asn Ser Thr Asp Tyr Ile Ala Met His  
 165 170 175  
 Asp Val Asp Leu Leu Pro Leu Asn Glu Glu Leu Asp Tyr Gly Phe Pro  
 180 185 190  
 Glu Ala Gly Pro Phe His Val Ala Ser Pro Glu Leu His Pro Leu Tyr  
 195 200 205  
 His Tyr Lys Thr Tyr Val Gly Gly Ile Leu Leu Leu Ser Lys Gln His  
 210 215 220  
 Tyr Arg Leu Cys Asn Gly Met Ser Asn Arg Phe Trp Gly Trp Gly Arg  
 225 230 235 240  
 Glu Asp Asp Glu Phe Tyr Arg Arg Ile Lys Gly Ala Gly Leu Gln Leu  
 245 250 255  
 Phe Arg Pro Ser Gly Ile Thr Thr Gly Tyr Lys Thr Phe Arg His Leu  
 260 265 270  
 His Asp Pro Ala Trp Arg Lys Arg Asp Gln Lys Arg Ile Ala Ala Gln  
 275 280 285  
 Lys Gln Glu Gln Phe Lys Val Asp Arg Glu Gly Gly Leu Asn Thr Val  
 290 295 300  
 Lys Tyr His Val Ala Ser Arg Thr Ala Leu Ser Val Gly Gly Ala Pro  
 305 310 315 320  
 Cys Thr Val Leu Asn Ile Met Leu Asp Cys Asp Lys Thr Ala Thr Pro  
 325 330 335  
 Trp Cys Thr Phe Ser  
 340

&lt;210&gt; 5137

&lt;211&gt; 3090

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5137

nngcggcgca atccggagag gacgccagga cgacgcccga gttccctttc aggctagaac  
 60  
 tcttcctttt tctagcttgg ggtagaaggc ggcgggagc cccggaaccc ccgcccctcg  
 120  
 ggtgcgaggc ggcanagggc cgtcccctac atttgcatag cccctgggac gtggcgctgc  
 180  
 acccaagcct cttctcagtt ggaggggaact ccaagtccca cagtgccacg ggggtggggtg  
 240  
 cgtcactttc gctgcgttgg aggctgagga gaattgagcc tgggaggcgg gtccggagag  
 300  
 ggctatggaa agccgccggc ggggaatccc ggccgtagag ggacagtgga taggtgcccc  
 360  
 aggcctacag ctggcctggg gctcgtgtct gggcttcgga cgttggggcc cgggtggccca  
 420

ccctttccgt agttgtccca aatggagctg gaattggatg ctggtgacca agacctgctg  
480  
gccttcctgc tagaggaaag tggagatttg gggacggcac ccgatgaggc cgtgagggcc  
540  
ccactggact gggcgctgcc gctttctgag gtaccgagcg actgggaagt agatgatttg  
600  
ctgtgctccc tgctgagtc cccagcgctg ttgaacattc tcagctcctc caaccctgc  
660  
cttgtccacc atgaccacac ctactccctc ccacgggaaa ctgtctctat ggatctagag  
720  
agtgaagct gtagaaaaga ggggaccag atgactccac agcatatgga ggagctggca  
780  
gagcaggaga ttgctaggct agtactgaca gatgaggaga agagtctatt ggagaaggag  
840  
gggcttattc tgctgagac acttcctctc actaagacag aggaacaaat tctgaaacgt  
900  
gtgcgaggga agattcgaaa taaaagatct gctcaagaga gccgcaggaa aaagaagggtg  
960  
tatgttgggg gtttagagag cagggtcttg aaatacacag cccagaatat ggagcttcag  
1020  
aacaagtac agcttctgga ggaacagaat ttgtcccttc tagatcaact gaggaactc  
1080  
caggccatgg tgattgagat atcaaacaaa accagcagca gcagcacctg catcttggtc  
1140  
ctactagtct ccttctgcct cctccttgta cctgctatgt actcctctga cacaaggggg  
1200  
agcctgccag ctgagcatgg agtggtgtcc cgccagcttc gtgccctccc cagtgaggac  
1260  
ccttaccagc tggagctgcc tgccctgcag tcagaagtgc cgaaagacag cacacaccag  
1320  
tggttgagc gctcagactg tgtactccag gccctggca acacttctg cctgctgcac  
1380  
tacatgcctc aggtctccag tgcagagcct cccctggagt ggccattccc tgacctctc  
1440  
tcagagcctc tctgccgagg tcccatcctc cccctgcagg caaatctcac aagggaaggga  
1500  
ggatggcttc ctactggtag cccctctgtc attttgagg acagatactc aggctagata  
1560  
tgaggatatg tggggggtct cagcaggagc ctggggggct ccccatctgt gtccaaataa  
1620  
aaagcgggtg gcaagggtg gccgcagctc ctgtgccctg tcaggacgac tgagggtca  
1680  
aacacaccac acttaatggc tttctgggtc ttttatttgt acccatgtgt ctgtcacacc  
1740  
atgaatgtac ctggggaaat caactgacct ccctgaacat ttcacgcagt cagggaacag  
1800  
gtgaggaaag aaataaataa gtgattctaa tgctgcctag gtcaccctca acccccattt  
1860  
actggcaca ttgggtggag agaagggaag gggatgatt gtccctgatgg ctcagggttg  
1920  
caggaggttc agaggggaag gaggaaggc caggctggag gctgggctgt tagcacttcc  
1980  
ctcccacagt tcagacggct cactctgggc tcaggtttgc catggcttcc tttggtccaa  
2040

acataggecc tgccttagt cctgtgccct gtttgacttt tggccaggag gcctttttgt  
 2100  
 gctgctgctg ttgcagggct agctgcatgg cccatatgct cagtggccgc atgtaggcca  
 2160  
 gtgagcggaa cactcgctgc tggcagtatg cctctggggc ctggaaggcc agacccaggc  
 2220  
 gctcccacac ggtacggtag cagccttcag ctgtctggaa gccctcccaa gtcaggccct  
 2280  
 cttggatcat ggtagctgcc agcccgtaga ccacaccac ccagacttca tcagactgca  
 2340  
 cactggatct atcagggaca ccatggggct gcatcccatt cacagccccc atggcccttc  
 2400  
 ctgcaaaggc ctggacgttc agctcaaaga tagtttgagg agcacggacc acatgttggg  
 2460  
 taggaaacac ctcaagtgtc cttctccta ggccacaggc cttcaggaac cactgtccag  
 2520  
 cacactggtc agacataaca ctacgagact gaggccgaga gctgctgtca tagttgtaat  
 2580  
 agcggccatt ccacagcagt ctctcatagg cttcttgccc ccggctgagg atagaagaaa  
 2640  
 acttatcctg gatgtcctgt gcccacaca gacagccat ctggaccatc acagccacag  
 2700  
 ctgccagcca cagccctcca cagtaagcac tggggcctgt ggtcacccat ccatcatagg  
 2760  
 tctggtctgc atagcctcca ttttcaatga gtccatcatg gtccttgta aacttcattt  
 2820  
 cagattccat cacagcctgc agcaciaaact tcaggttcag gtccttccaa tcagcagtat  
 2880  
 catggattaa atatgcattg acgcgagacc atggttcatc atctgtggga gaggagggga  
 2940  
 cttgggtcac ttgcattggt ggatagggtg gagggtgcaa aagttgaggg agggaagctg  
 3000  
 accttggggg ggacttttac ctgggttccc aatatcatgg gggatgacgt tcctcctttt  
 3060  
 cacaggtgcc atcacccac tcatcangta  
 3090

&lt;210&gt; 5138

&lt;211&gt; 371

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5138

Met Glu Leu Glu Leu Asp Ala Gly Asp Gln Asp Leu Leu Ala Phe Leu  
 1 5 10 15  
 Leu Glu Glu Ser Gly Asp Leu Gly Thr Ala Pro Asp Glu Ala Val Arg  
 20 25 30  
 Ala Pro Leu Asp Trp Ala Leu Pro Leu Ser Glu Val Pro Ser Asp Trp  
 35 40 45  
 Glu Val Asp Asp Leu Leu Cys Ser Leu Leu Ser Pro Pro Ala Ser Leu  
 50 55 60  
 Asn Ile Leu Ser Ser Ser Asn Pro Cys Leu Val His His Asp His Thr  
 65 70 75 80  
 Tyr Ser Leu Pro Arg Glu Thr Val Ser Met Asp Leu Glu Ser Glu Ser

```
<210> 5139
<211> 1968
<212> DNA
<213> Homo sapiens
```

```
<400> 5139
gtctgccggc ttctggttcc cacgcaagta agcctgctgt caatggagga ggacattgat
60
acccgcaaaa tcaacaacag tttcctgcgc gaccacagct atgcgaccga agctgacatt
120
atctctacgg tagaattcaa ccacacggga gaattactag cgacagggga caaggggggt
180
cgggttgtaa tatttcaacg agagcaggag agtaaaaatc aggttcacg taggggtgaa
240
tacaatgttt acagcacatt ccagagccat gaacccgagt tcgattacct gaagagttta
300
```



gaaatagaag aaaaaatcaa taaaataaga tggctcccc agcagaatgc agcttacttt  
360  
cttctgtcta ctaatgataa aactgtgaag ctgtggaaag tcagcgagcg tgataagagg  
420  
ccagaaggct acaatctgaa agatgaggag ggccggctcc gggatcctgc caccatcaca  
480  
accctgcggg tgctgtcct gagacccatg gacctgatgg tggaggccac cccacgaaga  
540  
gtatttgcca acgcacacac atatcacatc aactccatat ctgtcaacag cgactatgaa  
600  
acctacatgt ccgctgatga cctgaggatt aacctatgga actttgaaat aaccaatcaa  
660  
agttttaata ttgtggacat taagccagcc aacatggagg agctcacgga ggtgatcaca  
720  
gcagccgagt tccaccccca tcattgcaac accttcgtgt acagcagcag caaagggaca  
780  
atccggctgt gtgacatgcg ggcattctgcc ctgtgtgaca ggcacaccaa gttttttgaa  
840  
gagccggaag atccaagcaa cagatcattt ttctctgaaa ttatctcttc gatttcggat  
900  
gtgaagtcca gccacagtgg gaggtatatc atgaccagag actacttgac cgtcaaagtc  
960  
tgggatctca acatggagag caggccggtg gagaccacc aggttcatga ctacctgcgc  
1020  
agcaagctct gctctctcta tgagaacgac tgcattcttg acaagtttga gtgtgtgtgg  
1080  
aatgggtcag acagtgtcat catgacaggc tcctataaca acttcttcag gatgtttgat  
1140  
agagacacca agcgtgatgt gacccttgag gcttcgaggg aaaacagcaa gccccggct  
1200  
atcctcaaac cccgaaaagt gtgtgtgggg ggcaagcgga gaaaagacga gatcagtgtc  
1260  
gacagtctgg acttttagcaa aaagatcctg cacacagcct ggcaccccggt ggacaatgtc  
1320  
attgccgtgg ctgccaccaa taacttgtag atattccagg acaaaatcaa ctagagacgc  
1380  
gaacgtgagg accaagtctt gtcttgcata gttaagccgg acatttttct gtcagagaaa  
1440  
aggcatcatt gtccgtcca ttaagaacag tgacgcacct gctacttccc ttcacagaca  
1500  
caggagaaaag ccgcctccgc tggaggcccg gtgtgggtcc gcctcggcga ggcgcgagac  
1560  
aggcgctgct gctcacgtgg agacgtctc gaagcagagt tgacggacac tgctccaaa  
1620  
aggtcattac tcagaataaa tgtatttatt tcagtcagag ccttccttcc caatttatag  
1680  
accaaaaaat taacatcaa gagaaaagtt attgtcagat accgctcttt ctccaacttt  
1740  
ccctctttct ctgccatcac acttgggcct tcaactgcagc gtgggtgtggc caccgtccgt  
1800  
gtcctctcgg ccttctccg agtccagggt gactctgtgg atgtgtggat gtggcccgag  
1860  
caggctcagg cggccccact caccacagc atccgcccgc accccttcgg gtgtgagcgc  
1920

tcaataaaaa caacacacta taaagtgttt ttaaattccaa aaaaaaaaa  
1968

<210> 5140

<211> 443

<212> PRT

<213> Homo sapiens

<400> 5140

Met	Glu	Glu	Asp	Ile	Asp	Thr	Arg	Lys	Ile	Asn	Asn	Ser	Phe	Leu	Arg
1			5					10					15		
Asp	His	Ser	Tyr	Ala	Thr	Glu	Ala	Asp	Ile	Ile	Ser	Thr	Val	Glu	Phe
		20					25					30			
Asn	His	Thr	Gly	Glu	Leu	Leu	Ala	Thr	Gly	Asp	Lys	Gly	Gly	Arg	Val
	35					40					45				
Val	Ile	Phe	Gln	Arg	Glu	Gln	Glu	Ser	Lys	Asn	Gln	Val	His	Arg	Arg
	50					55				60					
Gly	Glu	Tyr	Asn	Val	Tyr	Ser	Thr	Phe	Gln	Ser	His	Glu	Pro	Glu	Phe
65			70					75					80		
Asp	Tyr	Leu	Lys	Ser	Leu	Glu	Ile	Glu	Glu	Lys	Ile	Asn	Lys	Ile	Arg
		85				90						95			
Trp	Leu	Pro	Gln	Gln	Asn	Ala	Ala	Tyr	Phe	Leu	Leu	Ser	Thr	Asn	Asp
	100					105						110			
Lys	Thr	Val	Lys	Leu	Trp	Lys	Val	Ser	Glu	Arg	Asp	Lys	Arg	Pro	Glu
	115					120						125			
Gly	Tyr	Asn	Leu	Lys	Asp	Glu	Gly	Arg	Leu	Arg	Asp	Pro	Ala	Thr	
	130					135					140				
Ile	Thr	Thr	Leu	Arg	Val	Pro	Val	Leu	Arg	Pro	Met	Asp	Leu	Met	Val
145			150					155				160			
Glu	Ala	Thr	Pro	Arg	Arg	Val	Phe	Ala	Asn	Ala	His	Thr	Tyr	His	Ile
		165						170				175			
Asn	Ser	Ile	Ser	Val	Asn	Ser	Asp	Tyr	Glu	Thr	Tyr	Met	Ser	Ala	Asp
	180							185				190			
Asp	Leu	Arg	Ile	Asn	Leu	Trp	Asn	Phe	Glu	Ile	Thr	Asn	Gln	Ser	Phe
	195					200						205			
Asn	Ile	Val	Asp	Ile	Lys	Pro	Ala	Asn	Met	Glu	Glu	Leu	Thr	Glu	Val
	210					215					220				
Ile	Thr	Ala	Ala	Glu	Phe	His	Pro	His	His	Cys	Asn	Thr	Phe	Val	Tyr
225			230					235				240			
Ser	Ser	Ser	Lys	Gly	Thr	Ile	Arg	Leu	Cys	Asp	Met	Arg	Ala	Ser	Ala
		245						250				255			
Leu	Cys	Asp	Arg	His	Thr	Lys	Phe	Phe	Glu	Glu	Pro	Glu	Asp	Pro	Ser
	260							265				270			
Asn	Arg	Ser	Phe	Phe	Ser	Glu	Ile	Ile	Ser	Ser	Ile	Ser	Asp	Val	Lys
	275					280						285			
Phe	Ser	His	Ser	Gly	Arg	Tyr	Ile	Met	Thr	Arg	Asp	Tyr	Leu	Thr	Val
	290					295					300				
Lys	Val	Trp	Asp	Leu	Asn	Met	Glu	Ser	Arg	Pro	Val	Glu	Thr	His	Gln
305			310					315				320			
Val	His	Asp	Tyr	Leu	Arg	Ser	Lys	Leu	Cys	Ser	Leu	Tyr	Glu	Asn	Asp
		325						330				335			
Cys	Ile	Phe	Asp	Lys	Phe	Glu	Cys	Val	Trp	Asn	Gly	Ser	Asp	Ser	Val
	340							345				350			
Ile	Met	Thr	Gly	Ser	Tyr	Asn	Asn	Phe	Phe	Arg	Met	Phe	Asp	Arg	Asp

355	360	365
Thr Lys Arg Asp Val	Thr Leu Glu Ala Ser Arg	Glu Asn Ser Lys Pro
370	375	380
Arg Ala Ile Leu Lys	Pro Arg Lys Val Cys Val	Gly Gly Lys Arg Arg
385	390	395
Lys Asp Glu Ile Ser	Val Asp Ser Leu Asp Phe	Ser Lys Lys Ile Leu
405	410	415
His Thr Ala Trp His	Pro Val Asp Asn Val Ile	Ala Val Ala Ala Thr
420	425	430
Asn Asn Leu Tyr Ile	Phe Gln Asp Lys Ile Asn	
435	440	

&lt;210&gt; 5141

&lt;211&gt; 928

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5141

```

ngcgcgccgg ccgatagcgc agccgcgctg gcggcggcgg tggccgcgat gatggagatc
60
cagatggacg agggcggcgg cgtggtggtg taccaggacg actactgctc cggctcgggtg
120
atgtcggagc ggggtgtcggg cctggcgggc tccatctacc gcgagttcga ggcctcatc
180
cactgctacg acgaggaggt ggtcaaggag ctcatgccgc tgggtggtgaa cgtgctggag
240
aacctagact cgggtgctcag cgagaaccag gagcacgagg tggagctgga gctgctgcgc
300
gaggacaacg agcagctgct caccagtagc gagcgtgaga aggcgctgcg caggcaggcg
360
gaggagaaat tcattgagtt tgaagatgct ctggaacaag agaagaaaga gctgcaaata
420
caggtggagc actacgagtt ccagacgcgc cagctggagc tgaaggccaa gaactatgcc
480
gatcagattt cccggttggg ggagcgggag tcggagatga agaaggagta caatgccctg
540
caccagcggc acacagagat gatacagacc tacgtggagc acattgagag gtccaagatg
600
cagcaggtcg gaggaacacg ccagaccgag agcagcctgc cggggcggag caggaaggag
660
cgccccacct ccctgaacgt gttccccctg gctgacggca cggtagctgc acagatcggg
720
ggcaagctcg tgctgcggg ggaccactgg cacctgagtg acctcggcca gctgcagtcc
780
agctccagct accaggtttt gtagccgtg cgtggagtga gaggttcctc ccctgttgct
840
ggtgttcccc gtttcaactg ggccggagct tcgtctgcag gcagcccttc acgactctct
900
gggccactcg ccctctccct tcacgcgt
928

```

&lt;210&gt; 5142

&lt;211&gt; 227

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5142

```

Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser Ile Tyr Arg Glu Phe
 1           5           10           15
Glu Arg Leu Ile His Cys Tyr Asp Glu Glu Val Val Lys Glu Leu Met
      20           25           30
Pro Leu Val Val Asn Val Leu Glu Asn Leu Asp Ser Val Leu Ser Glu
      35           40           45
Asn Gln Glu His Glu Val Glu Leu Glu Leu Arg Glu Asp Asn Glu
      50           55           60
Gln Leu Leu Thr Gln Tyr Glu Arg Glu Lys Ala Leu Arg Arg Gln Ala
      65           70           75           80
Glu Glu Lys Phe Ile Glu Phe Glu Asp Ala Leu Glu Gln Glu Lys Lys
      85           90           95
Glu Leu Gln Ile Gln Val Glu His Tyr Glu Phe Gln Thr Arg Gln Leu
      100           105           110
Glu Leu Lys Ala Lys Asn Tyr Ala Asp Gln Ile Ser Arg Leu Glu Glu
      115           120           125
Arg Glu Ser Glu Met Lys Lys Glu Tyr Asn Ala Leu His Gln Arg His
      130           135           140
Thr Glu Met Ile Gln Thr Tyr Val Glu His Ile Glu Arg Ser Lys Met
      145           150           155           160
Gln Gln Val Gly Gly Asn Ser Gln Thr Glu Ser Ser Leu Pro Gly Arg
      165           170           175
Ser Arg Lys Glu Arg Pro Thr Ser Leu Asn Val Phe Pro Leu Ala Asp
      180           185           190
Gly Thr Val Arg Ala Gln Ile Gly Gly Lys Leu Val Pro Ala Gly Asp
      195           200           205
His Trp His Leu Ser Asp Leu Gly Gln Leu Gln Ser Ser Ser Ser Tyr
      210           215           220
Gln Val Leu
      225

```

&lt;210&gt; 5143

&lt;211&gt; 1666

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5143

```

nccgcccac agttccgacg aaaaatggcg gggtttcctg agttggtggt ccttgaccct
60
ccatgggaca aggagctcgc ggctggcaca gagagccagg ccttggtctc cgccactccc
120
cgagaagact ttcgggtgcg ctgcacctcg aagcgggctg tgaccgaaat gctacaactg
180
tgcggccgct tcgtgcaaaa gctcggggac gctctgccgg aggagattcg ggagcccgct
240
ctgcgagatg cgagtggtgac ttttgaatca gctgtgcaag agaatatcag cattaatggg
300
caagcatggc aggaagcttc agataattgt tttatggatt ctgacatcaa agtacttgaa
360
gatcagtttg atgaaatcat agtagatata gccacaaaac gtaagcagta tcccagaaag
420

```

atcctggaat gtgtcatcaa aaccataaaa gcaaaacaag aaattctgaa gcagtaccac  
 480  
 cctgtgttac atccactgga cctaaaatat gaccctgac cagcccctca tatggaaaat  
 540  
 ttgaaatgca gaggggaaac agtagcaaag gagatcagtg aagccatgaa gtccttgct  
 600  
 gcattaattg aacaaggaga gggattttcc caagttctca ggatgcagcc tgttatccac  
 660  
 ctccagagga ttcaccaaga agtcttttcc agttgtcata ggaaaccaga tgctaaacct  
 720  
 gagaacttta taacacagat agaaaccaca ccaacagaga ctgcttccag gaaaacctct  
 780  
 gacatggtac tgaaaagaaa gcaaaactaaa gactgcccc agagaaaatg gtatccattg  
 840  
 cggccaaaga aaattaatct tgatacatga gctctttctg tttattttgg gagttgaaaa  
 900  
 taggcacat caacatttag attacagcct aattaatacc tagataagac ttcatttgaa  
 960  
 ataagaaata actcttttac tagtgattca tttatacaga tatagtatct ctgtgcgggg  
 1020  
 atatgatata atattgtatt tccttactgt tttatctatt gtaaataaaa agcattttaa  
 1080  
 aaagtattga cacaaagccc atcagtgggc attaaaaata ttaaaagtgc agacttttac  
 1140  
 tgtccttaag tgccatcaac tctcagctcc cttgtagctt ttgtgggatt taacaagtaa  
 1200  
 caaattctgt tgtgtttccc tggatatacat ctttctagga aaaaaaaaaa aagagagaga  
 1260  
 gctgtataat gatttttctg ttacatgctg aaaagtaatt atcagttctg cacagcagca  
 1320  
 gatgcagggt ttttttttaa agatgtagtt tgatttatca aattaatgtg ctgatgataa  
 1380  
 tactggcttt gactttgtta ctccatgttc agctaattta ggtttgtgag attaaactta  
 1440  
 ggattttttg ttgtgtaaga caatgataac tattatttgt gcaacattac tctttgaaat  
 1500  
 aaaaattggc atgtagccaa tgtttcctgc ccacactcac ttttttctat agaccattaa  
 1560  
 cataatttga cttggaacta atggtttctt tttagggttt cttatttatt tctttacaaa  
 1620  
 tcattccagt tcaaaatata tatcagatta atacactgaa aaaaaa  
 1666

&lt;210&gt; 5144

&lt;211&gt; 218

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5144

Leu Pro Glu Glu Ile Arg Glu Pro Ala Leu Arg Asp Ala Gln Trp Thr  
 1 5 10 15  
 Phe Glu Ser Ala Val Gln Glu Asn Ile Ser Ile Asn Gly Gln Ala Trp  
 20 25 30  
 Gln Glu Ala Ser Asp Asn Cys Phe Met Asp Ser Asp Ile Lys Val Leu

35 40 45  
 Glu Asp Gln Phe Asp Glu Ile Ile Val Asp Ile Ala Thr Lys Arg Lys  
 50 55 60  
 Gln Tyr Pro Arg Lys Ile Leu Glu Cys Val Ile Lys Thr Ile Lys Ala  
 65 70 75 80  
 Lys Gln Glu Ile Leu Lys Gln Tyr His Pro Val Val His Pro Leu Asp  
 85 90 95  
 Leu Lys Tyr Asp Pro Asp Pro Ala Pro His Met Glu Asn Leu Lys Cys  
 100 105 110  
 Arg Gly Glu Thr Val Ala Lys Glu Ile Ser Glu Ala Met Lys Ser Leu  
 115 120 125  
 Pro Ala Leu Ile Glu Gln Gly Glu Gly Phe Ser Gln Val Leu Arg Met  
 130 135 140  
 Gln Pro Val Ile His Leu Gln Arg Ile His Gln Glu Val Phe Ser Ser  
 145 150 155 160  
 Cys His Arg Lys Pro Asp Ala Lys Pro Glu Asn Phe Ile Thr Gln Ile  
 165 170 175  
 Glu Thr Thr Pro Thr Glu Thr Ala Ser Arg Lys Thr Ser Asp Met Val  
 180 185 190  
 Leu Lys Arg Lys Gln Thr Lys Asp Cys Pro Gln Arg Lys Trp Tyr Pro  
 195 200 205  
 Leu Arg Pro Lys Lys Ile Asn Leu Asp Thr  
 210 215

&lt;210&gt; 5145

&lt;211&gt; 1885

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5145

ncctaggcgt cctgacaggt ggatttcgac aagggtcattg tgccctgccca aggcacagcg  
 60  
 tagatctgga aagagcagaa tgctttcctt ttcagatgtg gctgggtcatg gaaggggagc  
 120  
 ttgtccaagt tgggctgggt cttggtacac gtggttcggc ccagctccac gtccaagaag  
 180  
 tagttcacc cagctacgat ctgcttgctg gcgcgcacca cctgcagcgc gcggctgtgg  
 240  
 tacatgtcgt tgctggcttt gttgtactcg ccgacggcct cgctcggta tcgcagcggg  
 300  
 tcctctctat ctagctccag cctctcgct gcgccccact ccccgctcc cgcgtcctag  
 360  
 ccgaccatgg ccgggcccct gcgcgccccg ctgctcctgc tggccatcct ggccgtggcc  
 420  
 ctggccgtga gccccgcggc cggctccagt cccggcaagc cgccgcgcct ggtgggaggg  
 480  
 cccatggacg ccagcgtgga ggaggagggt gtgcggcgtg cactggactt tgccgtcggc  
 540  
 gagtacaaca aagccggcaa cgacatgtac cacagccgcg cgctgcaggt ggtgcgcgcc  
 600  
 cgcaagcagg tgacaatgtg ggcagctcat gaagatcgta gctgggggtga actacttctt  
 660  
 ggacgtggag ctgggcccga ccacgtgtac caagaccag cccaacttgg acaactgccc  
 720

cttccatgac cagccacatc tgaaaaggaa agcattctgc tctttccaga tctacgtgt  
 780  
 gccttggcag ggcacaatga ccttgtcgaa atccacctgt caggacgcct aggggtctgt  
 840  
 accgggctgg cctgtgccta tcacctctta tgcacacctc ccacccctg tattcccacc  
 900  
 cctggactgg tggccctgc cttggggaag gtctcccat gtgctgcac caggagacag  
 960  
 acagagaagg cagcaggcgg cctttgttgc tcagcaagg gctctgcct cctccttcc  
 1020  
 ttcttgttc tcatagcccc ggtgtgcggt gcatacacc ccacctctg caataaaata  
 1080  
 gtagcatcgg caaaaaaacc tggcatccgg acaggcatcc aaggccttaa aggagaccag  
 1140  
 ggggaacctg ggccctctgg aaaccccggc aagggtgggt acccagggcc cagcggcccc  
 1200  
 ctcgagccc gtggcatccc gggaattaaa ggcaccaagg gcagcccagg aaacatcaag  
 1260  
 gaccagccga ggccagcctt ctccgccatt cggcggaacc cccaatggg gggcaacgtg  
 1320  
 gtcattctcg acacggtcat caccaaccag gaagaaccgt accagaacca ctccggccga  
 1380  
 ttctgtctga ctgtaccgg ctactactac ttcaccttcc aggtgctgtc ccagtgggaa  
 1440  
 atctgcctgt ccatcgtctc ctctcaagg ggccaggctc gacgctccct gggcttctgt  
 1500  
 gacaccacca acaaggggct cttccagggt gtgtcaggg gcattggtgtc tcagctgcag  
 1560  
 cagggtgacc aggtctgggt tgaaaaagac ccaaaaagg gtcacattta ccagggtctt  
 1620  
 gaggccgaca ggtcttcag cggttctc atcttcccat ctgcctgagc cagggaagga  
 1680  
 cccctcccc caccacctc tctggcttcc atgtccgcc tgtaaaatgg gggcgctatt  
 1740  
 gcttcagctg ctgaaggag ggggctggct ctgagagccc caggactggc tgccccgtga  
 1800  
 cacatgctct aagaagctg tttcttagac ctcttctgg aataaacatc tgtgtctgtg  
 1860  
 tctgtgaaa aaaaaaaaaa aaaaa  
 1885

&lt;210&gt; 5146

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5146

Pro	Ala	Thr	Ser	Glu	Lys	Glu	Ser	Ile	Leu	Leu	Phe	Pro	Asp	Leu	Arg
1				5					10					15	
Cys	Ala	Leu	Ala	Gly	His	Asn	Asp	Leu	Val	Glu	Ile	His	Leu	Ser	Gly
		20						25					30		
Arg	Leu	Gly	Val	Cys	Thr	Gly	Leu	Ala	Cys	Ala	Tyr	His	Leu	Leu	Cys
	35						40				45				
Thr	Pro	Pro	Thr	Pro	Cys	Ile	Pro	Thr	Pro	Gly	Leu	Val	Ala	Pro	Ala

50                      55                      60  
 Leu Gly Lys Val Ser Pro Cys Ala Cys Thr Arg Arg Gln Thr Glu Lys  
 65                      70                      75                      80  
 Ala Ala Gly Gly Leu Cys Cys Ser Ala Arg Gly Ser Ala Leu Pro Pro  
                     85                      90                      95  
 Ser Phe Leu Leu Ile Ala Pro Val Cys Gly Ala Tyr Thr Pro Thr  
                     100                      105                      110  
 Ser Cys Asn Lys Ile Val Ala Ser Ala Lys Lys Pro Gly Ile Arg Thr  
                     115                      120                      125  
 Gly Ile Gln Gly Leu Lys Gly Asp Gln Gly Glu Pro Gly Pro Ser Gly  
                     130                      135                      140  
 Asn Pro Gly Lys Val Gly Tyr Pro Gly Pro Ser Gly Pro Leu Gly Ala  
 145                      150                      155                      160  
 Arg Gly Ile Pro Gly Ile Lys Gly Thr Lys Gly Ser Pro Gly Asn Ile  
                     165                      170                      175  
 Lys Asp Gln Pro Arg Pro Ala Phe Ser Ala Ile Arg Arg Asn Pro Pro  
                     180                      185                      190  
 Met Gly Gly Asn Val Val Ile Phe Asp Thr Val Ile Thr Asn Gln Glu  
                     195                      200                      205  
 Glu Pro Tyr Gln Asn His Ser Gly Arg Phe Val Cys Thr Val Pro Gly  
                     210                      215                      220  
 Tyr Tyr Tyr Phe Thr Phe Gln Val Leu Ser Gln Trp Glu Ile Cys Leu  
 225                      230                      235                      240  
 Ser Ile Val Ser Ser Ser Arg Gly Gln Val Arg Arg Ser Leu Gly Phe  
                     245                      250                      255  
 Cys Asp Thr Thr Asn Lys Gly Leu Phe Gln Val Val Ser Gly Gly Met  
                     260                      265                      270  
 Val Leu Gln Leu Gln Gln Gly Asp Gln Val Trp Val Glu Lys Asp Pro  
                     275                      280                      285  
 Lys Lys Gly His Ile Tyr Gln Gly Ser Glu Ala Asp Ser Val Phe Ser  
                     290                      295                      300  
 Gly Phe Leu Ile Phe Pro Ser Ala  
 305                      310

&lt;210&gt; 5147

&lt;211&gt; 2943

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5147

nacgcgtcgc tgaaggagcg cttegccttc ctcttcaact.cggagctgct gagcgatgtg  
 60  
 cgcttcgtac tgggcaaggg tcgcggcgcc gccgccgctg ggggcccgcga gcgcatcccc  
 120  
 gcccacgct tcgtgctggc ggccggcagc gccgtctttg acgccatggt caacggcggc  
 180  
 atggccacca cgtcggccga gatcgagctg ccggacgtgg agcccgccagc cttcctggcg  
 240  
 ctgctgagat ttctatatcc agatgaagtt caaattggtc cagaaacagt tatgaccact  
 300  
 ctttatactg ccaagaaata cgcagtccca gccttggaag cacactgtgt agaatttctc  
 360  
 accaaacatc ttagggcaga taatgccttt atgttactta ctcaggctcg attatttgat  
 420



gaacctcagc ttgctagtct ttgtctagat acaatagaca aaagcacaat ggatgcaata  
480  
agtgcagaag ggtttactga tattgatata gatacactct gtgcagtttt agagagagac  
540  
acactcagta ttcgagaaag tcgacttttt ggagctgttg tacgctgggc agaagcagaa  
600  
tgtcagagac aacaattacc tgtgactttt gggataaac aaaaagttct aggaaaagca  
660  
ctttccttaa tccggttccc actgatgaca attgaggaat ttgcagcagg tcctgctcaa  
720  
tctggaattt tgtcagatcg tgaagtggta aacctcttc ttcattttac tgtcaaccct  
780  
aaaccccgag ttgaatacat tgaccgacca agatgctgtc tcaggggaaa ggaatgctgc  
840  
atcaatagat tccagcaagt agaaagccgc tgggggttaca gtgggacgag tgatcgaatc  
900  
agattcacag ttaatagaag gatctctata gttggatttg gcttgatgg atctattcat  
960  
ggccctacag attatcaagt gaatatacag atcattgaat atgagaaaaa gcaaaccctg  
1020  
ggacagaatg ataccggctt tagttgtgat gggacagcta acacattcag ggtcatgttc  
1080  
aaggaaccca tagagatcct gcccaatgtg tgctacacag catgtgcaac actcaaaggc  
1140  
ccagattccc actatggcac aaaaggattg aagaaagtag tgcatgagac acctgctgca  
1200  
agcaagactg ttttttctt ttttagttcc cctggcaata ataatggcac ttcaatagaa  
1260  
gatggacaaa ttccagaaat catattttat acataattta gcattataat acatcttggc  
1320  
taaataatac catacaatct agtgtcaaaa acataaatgg ccacaaaaaa gtagtttgag  
1380  
tgttatgaat atttaaaatt gtaagataag aaacagtctt ttagagcaga tagaaaaatg  
1440  
cttattttaa tctttgcatg atttaaaaac agattttcca tttctttaca actttaagag  
1500  
aaaagaactg ggtttaatgg tttaaaaaaa agcacagctt tttcaccttc atcttgata  
1560  
atttcataga ttggctgact tagggctctt caatagtttg ggaattgaaa gattcttggt  
1620  
atatatagct agtttgggtt tgcttttgtt ttaactattt tgaaggtag gtgagatggg  
1680  
caaataggct taactatttt gaaggttggg tgaagagaga tgggtcagta ttcctacaga  
1740  
attcttatta actcaataa ctaaatttca gaaaattaag aagctgactt tatatttggc  
1800  
ggtttgaagt atcttggtgt tagcatttgt aataatgcta aaaaaggcct aataaaatgc  
1860  
ccaagaaaat attcagtgc tttatagaga aggatatttt gtagtagtat agtaatgtgt  
1920  
tatgtagtac agttttaag ctataaatgg aattttgtgt aaattcaca aaatgtgata  
1980  
taaacaggat ctaagactgg attccctgtc actaaactgc accactatac ctgtctctct  
2040

gtgtggggga cactgctgat gattcccaag attgagatga tgacggtgat gacgactggg  
 2100  
 tgaacagcca tcacttcaac attgtgataa tccttcacag cagaaaccga ataaaatact  
 2160  
 aacatttcta acaactgctc tgacattgta aagagatcca acagaatcac tctgctgaa  
 2220  
 aaatacgctt tctgccacct acacatttct atttaggaag taaaatttgc ttcattggtca  
 2280  
 tgacccatt agtcagtgtt acagctgtgt tggggatagg aagtatatct ggcagattga  
 2340  
 tatttataca cttttttata aagcagattt taaaatatag taacatccat ttttttcct  
 2400  
 tgaaagtgat tctcttataa aaaatgaaag tggagtttaa ggtatatcaa atcgttgtgg  
 2460  
 aaggtgatta aaaatcaaaa ttcttttaaa tatcaactta attttttcta agtaagatac  
 2520  
 aaaaaatttt catctaaagt aatatttcac tttatattgt aaagaaggta ggtatattgg  
 2580  
 tggctgaggt ctcttgaaat tgctaaaggg aaatttttct atggtaatgc tcttacggat  
 2640  
 ataaacctca gttaaatgga attatctatg ggatgtgtgg ttctgggttaa ctaaaaatta  
 2700  
 accagtaaac actctgtagt aaccattaca gaaaatactt ctgccttaaa aaatatgata  
 2760  
 tgccagagat gagttagtgt ttcttgacgt tggagacctt ttaaatgcct catctgttgt  
 2820  
 actgaacaat tgaaactgca tgcagccata aaagggacaa gaaacagaac tgtttactaa  
 2880  
 ctttgggaca tcccctggag tttttaaaaa taaataaata tatatatata taaaaaaaaa  
 2940  
 aaa  
 2943

&lt;210&gt; 5148

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5148

Ala	Arg	Leu	Phe	Asp	Glu	Pro	Gln	Leu	Ala	Ser	Leu	Cys	Leu	Asp	Thr
1				5					10					15	
Ile	Asp	Lys	Ser	Thr	Met	Asp	Ala	Ile	Ser	Ala	Glu	Gly	Phe	Thr	Asp
			20					25					30		
Ile	Asp	Ile	Asp	Thr	Leu	Cys	Ala	Val	Leu	Glu	Arg	Asp	Thr	Leu	Ser
			35				40					45			
Ile	Arg	Glu	Ser	Arg	Leu	Phe	Gly	Ala	Val	Val	Arg	Trp	Ala	Glu	Ala
	50					55				60					
Glu	Cys	Gln	Arg	Gln	Gln	Leu	Pro	Val	Thr	Phe	Gly	Asn	Lys	Gln	Lys
65					70				75					80	
Val	Leu	Gly	Lys	Ala	Leu	Ser	Leu	Ile	Arg	Phe	Pro	Leu	Met	Thr	Ile
			85					90						95	
Glu	Glu	Phe	Ala	Ala	Gly	Pro	Ala	Gln	Ser	Gly	Ile	Leu	Ser	Asp	Arg
			100				105					110			
Glu	Val	Val	Asn	Leu	Phe	Leu	His	Phe	Thr	Val	Asn	Pro	Lys	Pro	Arg

```

      115      120      125
Val Glu Tyr Ile Asp Arg Pro Arg Cys Cys Leu Arg Gly Lys Glu Cys
      130      135      140
Cys Ile Asn Arg Phe Gln Gln Val Glu Ser Arg Trp Gly Tyr Ser Gly
145      150      155      160
Thr Ser Asp Arg Ile Arg Phe Thr Val Asn Arg Arg Ile Ser Ile Val
      165      170      175
Gly Phe Gly Leu Tyr Gly Ser Ile His Gly Pro Thr Asp Tyr Gln Val
      180      185      190
Asn Ile Gln Ile Ile Glu Tyr Glu Lys Lys Gln Thr Leu Gly Gln Asn
      195      200      205
Asp Thr Gly Phe Ser Cys Asp Gly Thr Ala Asn Thr Phe Arg Val Met
      210      215      220
Phe Lys Glu Pro Ile Glu Ile Leu Pro Asn Val Cys Tyr Thr Ala Cys
225      230      235      240
Ala Thr Leu Lys Gly Pro Asp Ser His Tyr Gly Thr Lys Gly Leu Lys
      245      250      255
Lys Val Val His Glu Thr Pro Ala Ala Ser Lys Thr Val Phe Phe Phe
      260      265      270
Phe Ser Ser Pro Gly Asn Asn Asn Gly Thr Ser Ile Glu Asp Gly Gln
      275      280      285
Ile Pro Glu Ile Ile Phe Tyr Thr
      290      295

```

&lt;210&gt; 5149

&lt;211&gt; 533

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5149

```

ntccgatgg cagttatggc tatggggatc aaagatgacc gtcttaacaa agaccgatgt
60
gtacgcctag ccctgggttca tgatatggca gaatgcatcg ttggggacat agcaccagca
120
gataacatcc ccaaagaaga aaaacatagg cgagaagagg aagctatgaa gcagataacc
180
cagctcctac cagaggacct cagaaaggag ctctatgaac tttgggaaga gtacgagacc
240
caatctagtg cagaagccaa atttgtgaag cagctagacc aatgtgaaat gattcttcaa
300
gcatctgaat atgaagacct tgaacacaaa cctgggagac tgcaagactt ctatgattcc
360
acagcaggaa aattcaatca ccctgagata gtccagcttg tttctgaact tgaggcagaa
420
agaagcacta acatagctgc agctgccagt gagccacact cctgagacac tctctaaatt
480
gctgcactcc tgtaacaaac attattttcc atttcattgt attgtgtttt gca
533

```

&lt;210&gt; 5150

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5150

Xaa Arg Met Ala Val Met Ala Met Gly Ile Lys Asp Asp Arg Leu Asn  
 1 5 10 15  
 Lys Asp Arg Cys Val Arg Leu Ala Leu Val His Asp Met Ala Glu Cys  
 20 25 30  
 Ile Val Gly Asp Ile Ala Pro Ala Asp Asn Ile Pro Lys Glu Glu Lys  
 35 40 45  
 His Arg Arg Glu Glu Glu Ala Met Lys Gln Ile Thr Gln Leu Leu Pro  
 50 55 60  
 Glu Asp Leu Arg Lys Glu Leu Tyr Glu Leu Trp Glu Glu Tyr Glu Thr  
 65 70 75 80  
 Gln Ser Ser Ala Glu Ala Lys Phe Val Lys Gln Leu Asp Gln Cys Glu  
 85 90 95  
 Met Ile Leu Gln Ala Ser Glu Tyr Glu Asp Leu Glu His Lys Pro Gly  
 100 105 110  
 Arg Leu Gln Asp Phe Tyr Asp Ser Thr Ala Gly Lys Phe Asn His Pro  
 115 120 125  
 Glu Ile Val Gln Leu Val Ser Glu Leu Glu Ala Glu Arg Ser Thr Asn  
 130 135 140  
 Ile Ala Ala Ala Ala Ser Glu Pro His Ser  
 145 150

&lt;210&gt; 5151

&lt;211&gt; 2273

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5151

nggtagtggg agatgtccgg ccggtctaag cgggagtctc gcggttccac tcgcggaag  
 60  
 cgagagtctg agtcgcgggg cagctccggg cgcgtaagc gggagcgaga tcgggagcgg  
 120  
 gagcctgagg cggcgagctc ccggggcagc cctgtgcgcg tgaagcgga gttcgagccg  
 180  
 gcgagcgcgc gcgaggcccc ggcttctgtt gtcccgtttg tgcgggtgaa gcgggagcgc  
 240  
 gaggtcgatg aggactcgga gcctgagcgg gaggtgcgag caaagaatgg ccgagtggat  
 300  
 tctgaggacc ggaggagccg ccactgcctg tacctggaca ccattaacag gagtgtgctg  
 360  
 gactttgact ttgagaaact gtgttctatc tccctctcac acatcaatgc ttatgcctgt  
 420  
 ctgggtgtgtg gcaagtactt tcaagctttt cacccttccc tacaggccgg ggtttgaagt  
 480  
 ctcacgccta cattcacagt gtccagttta gccaccatgt tttcctcaac ctccacaccc  
 540  
 tcaagtttta ctgccttcca gacaactatg agatcatcga ttcctcattg gaggatatca  
 600  
 cgtatgtgtt tgaagccac tttcacaaag cagcaaattg caaacttga caagcaagcc  
 660  
 aaattgtccc gggcatatga tggtaaccact tacctgccgg gtattgtggg actgaataac  
 720  
 ataaaggcca atgattatgc caacgctgtc cttcaggtc tatctaattg tctcctctc  
 780

cggaactact ttctggaaga agacaattat aagaacatca aacgtcctcc aggggatatac  
840  
atgttcttgt tgggtccagcg ttttgagagag ctgatgagaa agctctggaa ccctcgaaat  
900  
ttcaaggcac atgtgtctcc ccatgagatg cttcaggcag ttgtactttg cagtaagaag  
960  
acttttcaga tcaccaaaca aggagatggc gttgactttc tgtcttggtt tctgaatgct  
1020  
ctgcactcag ctctgggggg cacaaagaag aaaaagaaga ctattgtgac tgatgttttc  
1080  
caggggtcca tgaggatctt cactaaaaag cttccccatc ctgatctgcc agcagaagaa  
1140  
aaagagcagt tgctccataa tgacgagtac caggagacaa tgggtggagtc cacttttatg  
1200  
tacctgacgc tggaccttcc tactgcccc ctctacaagg acgagaagga gcagctcatc  
1260  
attccccaag tgccactctt caacatcctg gctaagttca atggcatcac tgagaaggaa  
1320  
tataagactt acaaggagaa ctttctgaag cgcttcagc ttaccaagtt gcctccatat  
1380  
ctaacttttt gtatcaagat attcactaag aacaacttct ttgttgagaa gaatccaact  
1440  
agttgtcaat ttcctatta caaatgtgga tctgagagaa tacttgtctg aagaagtaca  
1500  
agcagtacac aagaatacca cctatgacct cattgccaac atcgtgcatg acggcaagcc  
1560  
ctccgagggc tcctaccgga tccacgtgct tcatcatggg acaggcaaatt ggtatgaatt  
1620  
acaagacctc caggtgactg acatccttcc ccagatgac acactgtcag aggcttacat  
1680  
tcagatttgg aagaggcgag ataatgatga aaccaaccag cagggggctt gaaggaggcg  
1740  
tctagggctt tgctcccaag ggctgtggct gatgatggta aataagaaca cagaagctgt  
1800  
agctgaacac aggtgtggctg gtgggcttcc taggccagcc cagcttgtat gggttctggc  
1860  
tacaccagag caccaagagc ccacttgctt gggatggccc cacactgtca ctcagttggt  
1920  
ctttgatcat ttttttctag attgatgctc ctttctcca tgcattgagc tcccatctag  
1980  
cttcagcagg gcagaacctt tctccagatg tgtgtaactt atgtcttgag tatctgggag  
2040  
tagttgaaga acagataatt ccttccaaac atcaagcctt gggattcttg gagcaagcag  
2100  
aaagccagta acttgcctct gttagagggtg gaggattttc ctatgggttcc cccattttcc  
2160  
tgatttgtat ttttagatgg attaaatagt ctctgtttt taaaaaaaaa aaaaaaaaaa  
2220  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa  
2273

&lt;210&gt; 5152

&lt;211&gt; 324

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5152

```

Met Phe Ser Ser Thr Ser Thr Pro Ser Ser Phe Thr Ala Phe Gln Thr
 1           5           10           15
Thr Met Arg Ser Ser Ile Pro His Trp Arg Ile Ser Arg Met Cys Leu
          20           25           30
Lys Pro Thr Phe Thr Lys Gln Gln Ile Ala Asn Leu Asp Lys Gln Ala
          35           40           45
Lys Leu Ser Arg Ala Tyr Asp Gly Thr Thr Tyr Leu Pro Gly Ile Val
          50           55           60
Gly Leu Asn Asn Ile Lys Ala Asn Asp Tyr Ala Asn Ala Val Leu Gln
65           70           75           80
Ala Leu Ser Asn Val Pro Pro Leu Arg Asn Tyr Phe Leu Glu Glu Asp
          85           90           95
Asn Tyr Lys Asn Ile Lys Arg Pro Pro Gly Asp Ile Met Phe Leu Leu
          100          105          110
Val Gln Arg Phe Gly Glu Leu Met Arg Lys Leu Trp Asn Pro Arg Asn
          115          120          125
Phe Lys Ala His Val Ser Pro His Glu Met Leu Gln Ala Val Val Leu
          130          135          140
Cys Ser Lys Lys Thr Phe Gln Ile Thr Lys Gln Gly Asp Gly Val Asp
145          150          155          160
Phe Leu Ser Trp Phe Leu Asn Ala Leu His Ser Ala Leu Gly Gly Thr
          165          170          175
Lys Lys Lys Lys Lys Thr Ile Val Thr Asp Val Phe Gln Gly Ser Met
          180          185          190
Arg Ile Phe Thr Lys Lys Leu Pro His Pro Asp Leu Pro Ala Glu Glu
          195          200          205
Lys Glu Gln Leu Leu His Asn Asp Glu Tyr Gln Glu Thr Met Val Glu
          210          215          220
Ser Thr Phe Met Tyr Leu Thr Leu Asp Leu Pro Thr Ala Pro Leu Tyr
225          230          235          240
Lys Asp Glu Lys Glu Gln Leu Ile Ile Pro Gln Val Pro Leu Phe Asn
          245          250          255
Ile Leu Ala Lys Phe Asn Gly Ile Thr Glu Lys Glu Tyr Lys Thr Tyr
          260          265          270
Lys Glu Asn Phe Leu Lys Arg Phe Gln Leu Thr Lys Leu Pro Pro Tyr
          275          280          285
Leu Ile Phe Cys Ile Lys Ile Phe Thr Lys Asn Asn Phe Phe Val Glu
          290          295          300
Lys Asn Pro Thr Ser Cys Gln Phe Pro Tyr Tyr Lys Cys Gly Ser Glu
305          310          315          320
Arg Ile Leu Val

```

&lt;210&gt; 5153

&lt;211&gt; 640

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5153

```

nngctagcag gagaggagga ggtagatctc attgtacaca tccgtcttct ggagagaaca
60

```

acctctcta ccatecccttc cttctacacc ttctctgcct gtcatagggtg gctgcaggag  
 120  
 ggggtccacgt tgggagggac aggtgagctg gcctttgggtg ctgacacact cctgactttg  
 180  
 cccctttctcc tgcaggggggt gccattccccg cagaatgagg ctaatgccat ggatgtgggtg  
 240  
 gtccagtttg ccateccaccg cctgggcttc cagccccagg acatcatcat ctacgcctgg  
 300  
 tccatcggtg gcttcaactgc cacgtgggca gccatgtcct acccagatgt tagtgccatg  
 360  
 atcctggatg cctcctttga tgacctgggtg cccttggcct tgaagggtcat gccagacagc  
 420  
 tggagtgagt gcagctccca ggcctgccct tcctgggaag ggggtgggtg gaactgggaa  
 480  
 ctgttctgag atggctccct tttcttgggt ggggagtaag tcgccccaat gttggaagca  
 540  
 ggaggactcc ttgtctggg ggcctcagtt ttctttctcc gtgaatagtg aggaccttta  
 600  
 tgttgggcaa gggctttgtc tctgccatcc cttcacgcgt  
 640

&lt;210&gt; 5154

&lt;211&gt; 162

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5154

Xaa	Leu	Ala	Gly	Glu	Glu	Glu	Val	Asp	Leu	Ile	Val	His	Ile	Arg	Leu
1				5					10					15	
Leu	Glu	Arg	Thr	Thr	Ser	Pro	Thr	Ile	Pro	Ser	Phe	Tyr	Thr	Phe	Ser
			20					25					30		
Ala	Cys	His	Arg	Trp	Leu	Gln	Glu	Gly	Ser	Thr	Leu	Gly	Gly	Thr	Gly
		35					40					45			
Glu	Leu	Ala	Phe	Gly	Ala	Asp	Thr	Leu	Leu	Thr	Leu	Pro	Phe	Leu	Leu
	50					55					60				
Gln	Gly	Val	Pro	Phe	Pro	Gln	Asn	Glu	Ala	Asn	Ala	Met	Asp	Val	Val
65					70					75				80	
Val	Gln	Phe	Ala	Ile	His	Arg	Leu	Gly	Phe	Gln	Pro	Gln	Asp	Ile	Ile
			85					90					95		
Ile	Tyr	Ala	Trp	Ser	Ile	Gly	Gly	Phe	Thr	Ala	Thr	Trp	Ala	Ala	Met
		100						105					110		
Ser	Tyr	Pro	Asp	Val	Ser	Ala	Met	Ile	Leu	Asp	Ala	Ser	Phe	Asp	Asp
	115						120					125			
Leu	Val	Pro	Leu	Ala	Leu	Lys	Val	Met	Pro	Asp	Ser	Trp	Ser	Glu	Cys
	130					135					140				
Ser	Ser	Gln	Ala	Cys	Pro	Ser	Trp	Glu	Gly	Val	Gly	Trp	Asn	Trp	Glu
145					150					155				160	
Leu	Phe														

&lt;210&gt; 5155

&lt;211&gt; 1402

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5155

ccaaagtcca gaagttacgc gtcacccttg ctctacagcc aaacatgcag gactctagta  
60  
acccgcgaaa tgatgggata gcgttgcaaa tccttaaaag agtccttaacg aaatcctggc  
120  
tgacattgac ttctccactg caaccatcga gttcattgtc tcctaaacct tgccatggag  
180  
gcctgtggca cctgagccag ccattatcat caccagcact tccatgagct acaagctgga  
240  
cccactgcag tcctcctgac aactgaaat cagagcctgc acacagagca gcagatgctt  
300  
caatgtaaag gtcatttcca ggtccttgac aggcgtgcat ctgggccaga tccatggcaa  
360  
taaccttcag gttgaggcta gagggcttca gatgggcagc ttcgaatgac aggagcaagg  
420  
aacaagaggc cggaaggga gggtgacatt ttcagcatct ataagatcaa ctttagaaat  
480  
atttgggggt tgacaaattc ccatcaagct ctgtggatct tgtacaacta ctcaccaccg  
540  
gcttctcadc agcacatgat tgggtgcaggg ttctgaggat gattttgaga tgttcctga  
600  
tgtggtcttg tgaggagatt tcatgacgga tggcaggaaa cttcgtggag agatttctga  
660  
agacactcct gagctcccaa caccgggcaa ctctcttcca gaggatattg ggggtggagg  
720  
tagaagagag gcaaagtcag gtttgtcttc ggatccctt tcattctccc ttttccac  
780  
cgtaaaccba ctttggctta cagttagaca ccagttttcg gcagatgaaa tccctctgat  
840  
ttcaggcatt ttgtcaatta agctgctcag caacaatagg ataaacttat gaaaagaaag  
900  
gagtagcagt cccacagaca aagcatccag cccctgcact gagacagtat aggaaggga  
960  
cttggctctg gcagacagga cagataatca acatcctagt gggccttaca catgtgggca  
1020  
tattcttttc cataccttct tgtctgtttt aacaagctaa cccagtcac agtagcagag  
1080  
agaggggtcca tcctaactta gctgaccagg ctggattcct aatcataaaa ccaaaaagg  
1140  
aagaacctaa ccatttctct ctttcagcta tgtgttccaa gattactgaa gcaggattct  
1200  
ggccttctcg ataagaacat gaccagatcc agctgggttg caacaagatg aacttcagt  
1260  
ctgagcttcc accaagtttt tctcactaca atctcattgt aatactaaaa tctccacca  
1320  
agatggagggt tatctgccat tttctgtact ctgctcogtt gtgctgctag agccacaagc  
1380  
ctattaaact ttgcctgaaa ta  
1402

&lt;210&gt; 5156

&lt;211&gt; 118

&lt;212&gt; PRT



<213> Homo sapiens

<400> 5156

```

Met Asp Leu Ala Gln Met His Ala Cys Gln Gly Pro Gly Asn Asp Leu
 1           5           10           15
Tyr Ile Glu Ala Ser Ala Ala Leu Cys Ala Gly Ser Asp Phe Ser Val
          20           25           30
Ser Gly Gly Leu Gln Trp Val Gln Leu Val Ala His Gly Ser Ala Gly
      35           40           45
Asp Asp Asn Gly Trp Leu Arg Cys His Arg Pro Pro Trp Gln Gly Leu
 50           55           60
Gly Asp Asn Glu Leu Asp Gly Cys Ser Gly Glu Val Asn Val Ser Gln
65           70           75           80
Asp Phe Val Lys Thr Leu Leu Arg Ile Cys Asn Ala Ile Pro Ser Phe
          85           90           95
Arg Gly Leu Leu Glu Ser Cys Met Phe Gly Cys Arg Ala Arg Val Thr
      100           105           110
Arg Asn Phe Trp Thr Leu
          115

```

<210> 5157

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 5157

```

tgatcagaaa ttacctttga cgtgcagtga cagttgattt cctcttgaac tgccggtgaa
60
aacagtctag tacacaggtg ctgtcagccc aggggtgggag caggaaatga ttgctgagcc
120
cggggcaggg gaattgcatt tgcaggaaaag agatgcagca tgctcctcac tcttgagtgc
180
ccacctgtcc tgcttctctg caggtgaaaa ctctggggga tgctgatcaa tagagcttgg
240
tcccaagctc tactgggccc ttggaggtag caaggccact gggttgctat cctcttgctg
300
gggatagcaa ccactggttt gcaaccactg ggttgctatc cttttgctat cctcttgctc
360
atgaccagcc atatggtgag gctggggagt tcacatcctc aggcaggaac tagcagttgt
420
ttatccagca atgcctcaag gatgttgcatt tgctcccagg agctggctat taggtatgtc
480
ttgtgcggtc agtcagcatc acagacacat agatgtcac cagcctggct tagctgggac
540
ctaaatcttc tggtgaaaag cttttcacta agtgaggttc cttccctgca aatgctgaat
600
ctagcctaatt tcgcaaccac acagaatttc atggctttca aaggcttgcc atgtgcccc
660
tctcattcta tactcacatc ccatggaggt gaggatttct acttcttttc tctagacttg
720
gaagctgaga ttcagagagg aagcatccct tgtgcaagat cacatagtca ggaggtgaca
780
cagggtctaa acttgaacca aggtctctaa aggatttctt cttttcagag tctcttccct
840

```

gtccatttct gtgactaagc tgtgcagagg ttgacagcag ggcaagttat attgatattc  
 900  
 atcctttata ggcttcctgc taaaaagctt ctgagattgt ggtcttccaa aaaaaatagg  
 960  
 agcttggttg aagtccccac attttcaagc actcagtgtt ctgcctctgc gaactgtgct  
 1020  
 aacagctcag tgctgtcctg ggagtcctct gactcagaac cctcgaagca tcctgcattg  
 1080  
 tctttaccca ccatcatctt cactaagaga aacatgccta cccatgaagg cgtgtttgat  
 1140  
 tactccaggc ttctggacac acatacccat ggggtatttt tgctcctcag gcccaatatt  
 1200  
 ctcagacagc ccagcagtgt gaacacacaa tgccaggcca gggaactggg gaccaccatc  
 1260  
 ttgctgatgg gaagggaaca acaggtggcc cagggacatg ctctgcata  
 1310

<210> 5158

<211> 82

<212> PRT

<213> Homo sapiens

<400> 5158

Met	Thr	Ser	His	Met	Val	Arg	Leu	Gly	Ser	Ser	His	Pro	Gln	Ala	Gly
1				5				10					15		
Thr	Ser	Ser	Cys	Leu	Ser	Ser	Asn	Ala	Ser	Arg	Met	Leu	His	Cys	Ser
			20				25					30			
Gln	Glu	Leu	Ala	Ile	Arg	Tyr	Val	Leu	Cys	Gly	Gln	Ser	Ala	Ser	Gln
		35				40					45				
Thr	His	Arg	Cys	Ser	Pro	Ala	Trp	Leu	Ser	Trp	Asp	Leu	Asn	Leu	Leu
	50				55				60						
Val	Lys	Ser	Phe	Ser	Leu	Ser	Glu	Val	Pro	Ser	Leu	Gln	Met	Leu	Asn
65					70				75					80	
Leu	Ala														

<210> 5159

<211> 3233

<212> DNA

<213> Homo sapiens

<400> 5159

nnggatccaa taaagtattg agaccaatgt gcaagaaata taattggaaa gcaatgtctt  
 60  
 ccatttcacg agcttttagtt gcatgcagcc atggcacaga gaagggagaa aagaatgtga  
 120  
 gcaaaaagtga tcagggaaga tttcctgatg gaggggggag tccaaccggg gtcttcttgg  
 180  
 atagtagcat ttgagtagtg tttaaaaaat aaataaataa aaggagcacg tgagaagtaa  
 240  
 agttgcattt ctggacatga gagcagtgtt gtgaaactta gatgatgcat atagagaagg  
 300  
 cagcgagtgt gtttgaggat agtgagcgaa cagtttgtct gttcacggac atctgtccag  
 360

agtggcaagc acatagtggg taaccagaat gggcctcttc cctttccttt ttggttacct  
420  
cacaactcag tataggtact gactgccaaa tctccacatt tgtatatttc ttagcgtaat  
480  
gaaggcgatc tcttccaccg gctgtggcac atcatgaatg aaatcctgga cctgaggcgg  
540  
caggtgctgg tgggccacct caccacgac cggatgaagg acgtgaagcg ccacattact  
600  
gcccggcttg actggggcaa tgaacaactg ggactggacc tggcgcctag gaaagagtac  
660  
gcaatggtgg atccggaaga catcagcatt actgagctct accgattgtc catgctgac  
720  
atgtttttgt tggggggtgt cattcagatg gaacatcgac atcggaagaa agacaccccg  
780  
gtgcaggcca gcagtcacca cctctttgtc cagatgaaga gcctcatgtg ttccaacctg  
840  
ggagaggagc tggagggtcat cttctcactc tttgacagta aagagaaccg gccaatcagt  
900  
gagagatttt tcttgaggct gaatagaaac gggcttccca aagcccctga taaaccggaa  
960  
cgacattgct ccctctttgt ggatttgggc agcagtgagc taagaaagga catttatatc  
1020  
accgtgcaca ttatccgaat cggtcgaatg ggagcaggag aaaaaagaa tgcctgtagt  
1080  
gtccagtacc gacgaccctt tggctgtgca gttcttagca tcgctgacct gctaacagga  
1140  
gagacaaagg atgacctcat tctgaaagta tacatgtgta acacagagag tgagtggtag  
1200  
caaatccatg agaacatcat caaaaagctg aatgcacgtt ataacttgac tggctccaat  
1260  
gcagggttag cagtttcctt acagctattg cacggagaca ttgaacaaat cagaagggaa  
1320  
tattcatcag tattttctca tggagtatcc ataacaagga agctgggatt ttcaaatatt  
1380  
attatgcctg gtgaaatgag gaatgattta tatatcacta ttgaaagggg agaatttgag  
1440  
aaaggaggga agagcgtggc cagaaatgtg gaagttacga tgttcattgt agacagtagt  
1500  
ggccaaaccc tgaaggattt tatctccttc ggctctgggg agccaccagc cagtgagtag  
1560  
cactcctttg tgctttacca taacaacagt cccagggtgt ctgaactgct gaaacttccc  
1620  
attcctgtgg ataaattccg gggcgcacac atccgcttcg agtttcggca ttgttcaca  
1680  
aaggagaaag gagagaagaa gttgtttggg ttttcttttg tccctctgat gcaagaagat  
1740  
ggtaggactc ttccagatgg cactcatgag ctcacgtgc ataagtgtga agaaaacaca  
1800  
aatcttcagg atactaccg ctacctcaaa ctccctttt ccaaggcat tttccttggg  
1860  
aataataatc aagccatgaa ggccacaaag gagtcctttt gtattacatc ttttctctgt  
1920  
tccacaaaac tcacacaaaa tggatgatg cttgatcttt tgaaatggag aaccaccca  
1980

gacaagatca ctggctgtct ctctaaatta aaagaaattg atggctcaga gatagtaaag  
 2040  
 tttctgcagg atacactgga taccttattt ggaatttttag atgaaaattc ccaaaaatat  
 2100  
 gggctctaaag tgtttgattc tttggttcac ataataaatt tgctgcaaga tagcaaattt  
 2160  
 catcatttta aacctgtaat ggacacttac attgagagtc attttgctgg ggcacttgca  
 2220  
 tacagagatc tcatcaaagt gctcaaattg tacgtggacc ggatcacaga agcagagcgg  
 2280  
 caagagcata tccaggagggt gctgaaggca caagaatata tttttaagta tatagtccaa  
 2340  
 tctcgaaggc tgttttccct tgccactggt gggcaaaacg aagaggagtt ccgctgctgc  
 2400  
 attcaggagc ttctcatgtc agtccgtttc tttctttcgc aagagagcaa agggctctgga  
 2460  
 gcattatctc agtcacaggc tgtgtttctg agctctttcc ctgccgtgta ctcagaactg  
 2520  
 ttgaagctct ttgatgtccg ggaagtagcc aacttggtcc aggacaccct gggcagtctg  
 2580  
 ccgaccatcc tgcattgtga tgattccctg caggccatca aactgcagtg cattggcaaa  
 2640  
 accgtggaaa gccagcttta taccaaccca gattcccgat acattcttct gcctgtcgtg  
 2700  
 ttacatcacc tccacattca cttgcaagaa cagaaggacc tgatcatgtg tgcacgtatc  
 2760  
 cttagcaacg tattttgtct tatcaagaaa aatagctcag aaaaatctgt gctggaggaa  
 2820  
 atagatgtga tagtggccag cttgctggat attctgctga ggaccatatt ggagatcacc  
 2880  
 agccgacctc agccatccag ctcagcaatg cggttccagt tccaggatgt cactggggag  
 2940  
 tttgttgctt gtctcctgtc cctattacga caaatgacag atagacatta tcaacagctt  
 3000  
 cttgatagtt ttaatacaaa ggaagaacta agggtaagtg acattttaaa atgttttctt  
 3060  
 taacatatct tttgggttta tcttggtttt attcatcact gttgagataa atcctagaca  
 3120  
 attgctttac ctgtttccat taagttctaa gctgtttttc tcagcctcat ccacagatct  
 3180  
 gctcatctat attggctttt aaagatttct attactcaag caaagctatt aac  
 3233

&lt;210&gt; 5160

&lt;211&gt; 849

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5160

Met	Asn	Glu	Ile	Leu	Asp	Leu	Arg	Arg	Gln	Val	Leu	Val	Gly	His	Leu
1				5					10					15	
Thr	His	Asp	Arg	Met	Lys	Asp	Val	Lys	Arg	His	Ile	Thr	Ala	Arg	Leu
			20					25					30		
Asp	Trp	Gly	Asn	Glu	Gln	Leu	Gly	Leu	Asp	Leu	Val	Pro	Arg	Lys	Glu

35 40 45  
 Tyr Ala Met Val Asp Pro Glu Asp Ile Ser Ile Thr Glu Leu Tyr Arg  
 50 55 60  
 Leu Ser Met Leu Ile Met Phe Leu Leu Gly Gly Val Ile Gln Met Glu  
 65 70 75 80  
 His Arg His Arg Lys Lys Asp Thr Pro Val Gln Ala Ser Ser His His  
 85 90 95  
 Leu Phe Val Gln Met Lys Ser Leu Met Cys Ser Asn Leu Gly Glu Glu  
 100 105 110  
 Leu Glu Val Ile Phe Ser Leu Phe Asp Ser Lys Glu Asn Arg Pro Ile  
 115 120 125  
 Ser Glu Arg Phe Phe Leu Arg Leu Asn Arg Asn Gly Leu Pro Lys Ala  
 130 135 140  
 Pro Asp Lys Pro Glu Arg His Cys Ser Leu Phe Val Asp Leu Gly Ser  
 145 150 155 160  
 Ser Glu Leu Arg Lys Asp Ile Tyr Ile Thr Val His Ile Ile Arg Ile  
 165 170 175  
 Gly Arg Met Gly Ala Gly Glu Lys Lys Asn Ala Cys Ser Val Gln Tyr  
 180 185 190  
 Arg Arg Pro Phe Gly Cys Ala Val Leu Ser Ile Ala Asp Leu Leu Thr  
 195 200 205  
 Gly Glu Thr Lys Asp Asp Leu Ile Leu Lys Val Tyr Met Cys Asn Thr  
 210 215 220  
 Glu Ser Glu Trp Tyr Gln Ile His Glu Asn Ile Ile Lys Lys Leu Asn  
 225 230 235 240  
 Ala Arg Tyr Asn Leu Thr Gly Ser Asn Ala Gly Leu Ala Val Ser Leu  
 245 250 255  
 Gln Leu Leu His Gly Asp Ile Glu Gln Ile Arg Arg Glu Tyr Ser Ser  
 260 265 270  
 Val Phe Ser His Gly Val Ser Ile Thr Arg Lys Leu Gly Phe Ser Asn  
 275 280 285  
 Ile Ile Met Pro Gly Glu Met Arg Asn Asp Leu Tyr Ile Thr Ile Glu  
 290 295 300  
 Arg Gly Glu Phe Glu Lys Gly Gly Lys Ser Val Ala Arg Asn Val Glu  
 305 310 315 320  
 Val Thr Met Phe Ile Val Asp Ser Ser Gly Gln Thr Leu Lys Asp Phe  
 325 330 335  
 Ile Ser Phe Gly Ser Gly Glu Pro Pro Ala Ser Glu Tyr His Ser Phe  
 340 345 350  
 Val Leu Tyr His Asn Asn Ser Pro Arg Trp Ser Glu Leu Leu Lys Leu  
 355 360 365  
 Pro Ile Pro Val Asp Lys Phe Arg Gly Ala His Ile Arg Phe Glu Phe  
 370 375 380  
 Arg His Cys Ser Thr Lys Glu Lys Gly Glu Lys Lys Leu Phe Gly Phe  
 385 390 395 400  
 Ser Phe Val Pro Leu Met Gln Glu Asp Gly Arg Thr Leu Pro Asp Gly  
 405 410 415  
 Thr His Glu Leu Ile Val His Lys Cys Glu Glu Asn Thr Asn Leu Gln  
 420 425 430  
 Asp Thr Thr Arg Tyr Leu Lys Leu Pro Phe Ser Lys Gly Ile Phe Leu  
 435 440 445  
 Gly Asn Asn Asn Gln Ala Met Lys Ala Thr Lys Glu Ser Phe Cys Ile  
 450 455 460  
 Thr Ser Phe Leu Cys Ser Thr Lys Leu Thr Gln Asn Gly Asp Met Leu

465					470					475					480
Asp	Leu	Leu	Lys	Trp	Arg	Thr	His	Pro	Asp	Lys	Ile	Thr	Gly	Cys	Leu
				485					490					495	
Ser	Lys	Leu	Lys	Glu	Ile	Asp	Gly	Ser	Glu	Ile	Val	Lys	Phe	Leu	Gln
			500					505					510		
Asp	Thr	Leu	Asp	Thr	Leu	Phe	Gly	Ile	Leu	Asp	Glu	Asn	Ser	Gln	Lys
		515					520					525			
Tyr	Gly	Ser	Lys	Val	Phe	Asp	Ser	Leu	Val	His	Ile	Ile	Asn	Leu	Leu
	530					535				540					
Gln	Asp	Ser	Lys	Phe	His	His	Phe	Lys	Pro	Val	Met	Asp	Thr	Tyr	Ile
545					550				555						560
Glu	Ser	His	Phe	Ala	Gly	Ala	Leu	Ala	Tyr	Arg	Asp	Leu	Ile	Lys	Val
			565						570					575	
Leu	Lys	Trp	Tyr	Val	Asp	Arg	Ile	Thr	Glu	Ala	Glu	Arg	Gln	Glu	His
			580					585					590		
Ile	Gln	Glu	Val	Leu	Lys	Ala	Gln	Glu	Tyr	Ile	Phe	Lys	Tyr	Ile	Val
		595					600					605			
Gln	Ser	Arg	Arg	Leu	Phe	Ser	Leu	Ala	Thr	Gly	Gly	Gln	Asn	Glu	Glu
	610					615					620				
Glu	Phe	Arg	Cys	Cys	Ile	Gln	Glu	Leu	Leu	Met	Ser	Val	Arg	Phe	Phe
625					630					635					640
Leu	Ser	Gln	Glu	Ser	Lys	Gly	Ser	Gly	Ala	Leu	Ser	Gln	Ser	Gln	Ala
			645						650					655	
Val	Phe	Leu	Ser	Ser	Phe	Pro	Ala	Val	Tyr	Ser	Glu	Leu	Leu	Lys	Leu
			660					665					670		
Phe	Asp	Val	Arg	Glu	Val	Ala	Asn	Leu	Val	Gln	Asp	Thr	Leu	Gly	Ser
	675						680					685			
Leu	Pro	Thr	Ile	Leu	His	Val	Asp	Asp	Ser	Leu	Gln	Ala	Ile	Lys	Leu
	690					695					700				
Gln	Cys	Ile	Gly	Lys	Thr	Val	Glu	Ser	Gln	Leu	Tyr	Thr	Asn	Pro	Asp
705					710					715					720
Ser	Arg	Tyr	Ile	Leu	Leu	Pro	Val	Val	Leu	His	His	Leu	His	Ile	His
			725						730					735	
Leu	Gln	Glu	Gln	Lys	Asp	Leu	Ile	Met	Cys	Ala	Arg	Ile	Leu	Ser	Asn
			740					745					750		
Val	Phe	Cys	Leu	Ile	Lys	Lys	Asn	Ser	Ser	Glu	Lys	Ser	Val	Leu	Glu
	755						760					765			
Glu	Ile	Asp	Val	Ile	Val	Ala	Ser	Leu	Leu	Asp	Ile	Leu	Leu	Arg	Thr
	770					775					780				
Ile	Leu	Glu	Ile	Thr	Ser	Arg	Pro	Gln	Pro	Ser	Ser	Ser	Ala	Met	Arg
785					790					795					800
Phe	Gln	Phe	Gln	Asp	Val	Thr	Gly	Glu	Phe	Val	Ala	Cys	Leu	Leu	Ser
			805						810					815	
Leu	Leu	Arg	Gln	Met											

```
<210> 5161
<211> 1645
<212> DNA
<213> Homo sapiens
```

<400> 5161  
ntggggccccc cagatttgcg ccattgcact ccagccttgg gacttgacgc ttctgaaacc  
60  
aaagggagag caaaagcagc cgggagcgcg cgggccgacc tggttctcct cccttcccac  
120  
ggctgcctta gtacagaatc ttataagtcc tcctccctca gaggtacag atggtgttcc  
180  
gaggccaggg gagtttaaag ctcgatttca cccgcgcagc ctccaatccg ggtgttctga  
240  
gaatcagcca tgtcatccct gtacccatct ctagaggacc taaaagtgga ccaagccatt  
300  
cagggccagg tcagagcctc acccaagatg ccagccctgc cagtccaggc aacagccatt  
360  
tccccaccac cagttttgta cccaaacttg gcagaactgg aaaattatat gggctcttcc  
420  
ctctccagcc aagaagtcca ggagagcctg cttcagattc cagaggggtga cagtacagcg  
480  
gtctcgggcc ccggggcccg ccagatgggtg gcaccggtaa ccgggtacag cctgggcggtg  
540  
cggcgagctg agatcaagcc cgggggtgcgc gagatccacc tgtgcaagga cgagcgcggc  
600  
aagaccgggc tgaggctgcg gaaggctgcac caggggctct ttgtgcagtt ggtccaggcc  
660  
aacaccctg catcccttgt ggggctgcgc tttggggacc agctcctgca gattgacggg  
720  
cgtgactgtg ctgggtggag ctcgcacaaa gcccatcagg tgggaagaa ggcacaggc  
780  
gataagattg tcgtggtggt tcgggacagg ccgttccagc ggactgtcac catgcacaag  
840  
gacagcatgg gccacgtcgg cttcgtgatc aagaagggga agattgtctc tctggtcaaa  
900  
gggagttctg cggcctgcaa cgggctcctc accaaccact acgtgtgtga ggtggacggg  
960  
cagaatgtta tcgggctgaa ggacaaaaag atcatggaga ttctggccac ggctgggaac  
1020  
gttgtcacc tgaccatcat cccagtggtg atctacgagc acatgggtcaa aaagttgcct  
1080  
ccagtcctgc tccaccacac catggaccac tccatcccag atgcctgaag cactggagg  
1140  
gcagggcagg cagggggggc ttcccgcct cctgcagcaa agggcaacca ccctcggatg  
1200  
atgggttgca gccggcctgc tgcttaaggt gggggctgcc atgagggggg cgtgtccagg  
1260  
agggtgacca tgggatggct tatacacaca ggctccttg gagcctcaga ctccaagcta  
1320  
ggctgaggct caggcagggc ccacaggcag ccgattctct tgtgctgatt taaatgctgg  
1380  
acacggaggc aggctgttta aacgctgctt aaagtcgcaa ctggggccct ttcaagaaat  
1440  
tttgctctac caggaaaaca gttacacatt ttaagagaac agagctacgt tctttgtgag  
1500  
agctttttcc ttggcttgac ttgctctttg tcacagactg cataagttgt cagccttgac  
1560

tatcttttga ataaagattt gatttttaaac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaa  
 1645

<210> 5162  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 5162  
 Met Val Ala Pro Val Thr Gly Tyr Ser Leu Gly Val Arg Arg Ala Glu  
 1 5 10 15  
 Ile Lys Pro Gly Val Arg Glu Ile His Leu Cys Lys Asp Glu Arg Gly  
 20 25 30  
 Lys Thr Gly Leu Arg Leu Arg Lys Val Asp Gln Gly Leu Phe Val Gln  
 35 40 45  
 Leu Val Gln Ala Asn Thr Pro Ala Ser Leu Val Gly Leu Arg Phe Gly  
 50 55 60  
 Asp Gln Leu Leu Gln Ile Asp Gly Arg Asp Cys Ala Gly Trp Ser Ser  
 65 70 75 80  
 His Lys Ala His Gln Val Val Lys Lys Ala Ser Gly Asp Lys Ile Val  
 85 90 95  
 Val Val Val Arg Asp Arg Pro Phe Gln Arg Thr Val Thr Met His Lys  
 100 105 110  
 Asp Ser Met Gly His Val Gly Phe Val Ile Lys Lys Gly Lys Ile Val  
 115 120 125  
 Ser Leu Val Lys Gly Ser Ser Ala Ala Cys Asn Gly Leu Leu Thr Asn  
 130 135 140  
 His Tyr Val Cys Glu Val Asp Gly Gln Asn Val Ile Gly Leu Lys Asp  
 145 150 155 160  
 Lys Lys Ile Met Glu Ile Leu Ala Thr Ala Gly Asn Val Val Thr Leu  
 165 170 175  
 Thr Ile Ile Pro Ser Val Ile Tyr Glu His Met Val Lys Lys Leu Pro  
 180 185 190  
 Pro Val Leu Leu His His Thr Met Asp His Ser Ile Pro Asp Ala  
 195 200 205

<210> 5163  
 <211> 1187  
 <212> DNA  
 <213> Homo sapiens

<400> 5163  
 nngtagagac ggggctctcc gtgttgctca ggctggctgc tgcacttcga ttctgtgct  
 60  
 tggtcttggt gaaggcgccg gccgctcaag cgtgtttcgg cagatatttt tgagaacatt  
 120  
 tttttatttt taaatacatg tatagcatga gtgatggagc caaacacaag ttttgaagcc  
 180  
 aagctcttgg ttctgagaaa caggcccaac actgcacagt gtcattcgca gtcaacccaa  
 240  
 ccactgtctg agttcacgtg acgatttctc ctgccaggtc acgggaagtt gttattttaa  
 300



gatggcagtt attacgaagg ggcgtttgtg gacggagaga tcacgggaga aggccgccgg  
 360  
 cactgggcct ggtcaggaga caccttctct ggacagtttg ttctgggaga gcctcaaggc  
 420  
 tacggcgta tggagtacaa agccggcgga tggtatgaag gggaggtctc ccacggcatg  
 480  
 cgggaaggac acgggtttct ggtggaccgg gatggacaag tgtaccaggg ctcttccat  
 540  
 gacaacaaga ggcacggccc tgggcagatg ctctttcaga acggtgacaa gtacgacggc  
 600  
 gactgggtcc gggaccggcg tcagggacac ggggtgctgc gctgcgccga cggctccacc  
 660  
 tacaagggac agtggcacag cgacgtcttc agtggactgg gcagcatggc cactgctca  
 720  
 ggggtcacct attatgggtt gtggatcaat ggccaccag cagaacaagc tacgaggatc  
 780  
 gtgatcttgg gtccggaggt gatggaagtg gccaagggt ctcccttctc ggtgaacgtt  
 840  
 cagctgctgc aggaccacgg ggaaattgcc aagagtaagc atctccaggg ggagatgacc  
 900  
 taacgtttcc aaaagagaaa caggcagcag gttcttaagc agtgaagatg cggacgagat  
 960  
 gttgcatgtg gtcctgagg cacagcagtg acttcgtgcc cagagcctgg cagagaggtc  
 1020  
 gcaggtgtgc cagcttccct gccagtcagg gcagccttgg gtgtgtgtgc aagcatgtgt  
 1080  
 gcacatattg tgtgatgtgc gtgctcctgt atgtgtgtgc atatgtgtgt atgccttgca  
 1140  
 caggtgtgca caggtctgaa tgtgtatacg tgtggggggg cacgcgt  
 1187

&lt;210&gt; 5164

&lt;211&gt; 213

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5164

Arg Phe Leu Leu Pro Gly His Gly Lys Leu Leu Phe Lys Asp Gly Ser  
 1 5 10 15  
 Tyr Tyr Glu Gly Ala Phe Val Asp Gly Glu Ile Thr Gly Glu Gly Arg  
 20 25 30  
 Arg His Trp Ala Trp Ser Gly Asp Thr Phe Ser Gly Gln Phe Val Leu  
 35 40 45  
 Gly Glu Pro Gln Gly Tyr Gly Val Met Glu Tyr Lys Ala Gly Gly Cys  
 50 55 60  
 Tyr Glu Gly Glu Val Ser His Gly Met Arg Glu Gly His Gly Phe Leu  
 65 70 75 80  
 Val Asp Arg Asp Gly Gln Val Tyr Gln Gly Ser Phe His Asp Asn Lys  
 85 90 95  
 Arg His Gly Pro Gly Gln Met Leu Phe Gln Asn Gly Asp Lys Tyr Asp  
 100 105 110  
 Gly Asp Trp Val Arg Asp Arg Arg Gln Gly His Gly Val Leu Arg Cys  
 115 120 125  
 Ala Asp Gly Ser Thr Tyr Lys Gly Gln Trp His Ser Asp Val Phe Ser

130		135		140	
Gly	Leu	Gly	Ser	Met	Ala
145		150		155	
Trp	Ile	Asn	Gly	His	Pro
		165		170	
Gly	Pro	Glu	Val	Met	Glu
		180		185	
Val	Gln	Leu	Leu	Gln	Asp
		195		200	
Gln	Gly	Glu	Met	Thr	
210					

&lt;210&gt; 5165

&lt;211&gt; 2370

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5165

```

cagtccagtg ctgctgtcgc tggaaccctg cagagggcgg tgggtgagcg gctggggccc
60
cgtggagcca ccatggaccc cgcaggggca gcagaccctt cagtgcctcc caatcctttg
120
actcacctga gcctgcagga cagatcagag atgcagctgc agagcgaagc cgacaggcgg
180
agcctcccgg gcaactggac caggtcatcc ccagagcaca ccaccattct gaggggaggg
240
gtgctcaggt gcctgcagca acagtgtgaa cagactgtgc ggatcctgca tgccaaggtg
300
gcccagaaat catacggaaa tgagaagcgg ttttcttgcc ccccgccctg tgtctacctc
360
tcggggcctg gctggagggt gaagccaggg caggatcaag ctcaccaggc gggggaaaacg
420
gggcccacgg tctgcggtta catgggactg gacagcgcgt ccggcagcgc cactgagacg
480
cagaagctga atttcgagca gcagccggac tccagggaat tcggctgcgc caagaccctg
540
tacatctcag atgcagacaa gaggaagcac tttcggttgg tgctgctggc ggtgctgcgc
600
ggggggccgg agctgggtac cttccacagc cgccttatca aggtcatctc gaagccctcg
660
cagaagaagc agtcgctgaa aaacaccgat ctgtgcatat cctccggctc aaaggtctcc
720
ctcttcaacc gcctgcgctc tcagacggtc tccacacgct acctctctgt ggaggatggg
780
gcctttgtgg ccagtgcacg acagtgggct gccttcacgc tccacctggc tgatgggcac
840
tctgcccag gagacttccc accgcgagag ggctacgttc gctatggctc cctggtgcag
900
ctcgtctgca cggtcaccgg catcacacta cctcccatga tcatccgtaa agtagcaaaa
960
cagtgtgcgc tccttgatgt ggatgagccc atctcccagc tgcacaagtg tgcattccag
1020
tttcaggca gtccccagg aggggggtgg acctacttat gccttgccac agagaagggtg
1080

```

gtgcaatttc aggcctctcc ctgcccacag gaggcgaaca gggctctgct taacgacagc  
 1140  
 tcttgctgga ccatcatcgg caccgagtcg gtggaatttt ccttcagcac cagcctggcg  
 1200  
 tgtaccctgg agccggtcac tccgggtgct ctcacacaga ccctagagct gagcggcggg  
 1260  
 ggcgacgtgg ccacgctgga gctccacgga gagaacttcc acgcggggct caagggtgtg  
 1320  
 tttggggacg tggaggcaga aaccatgtac aggtacgggg tgnngagccc gcggtccctg  
 1380  
 gtgtgcgtgg tgccggacgt ggcggccttc tgcagcgact ggcgctggct gcgcgtcccc  
 1440  
 atcacaatcc ccatgagcct ggtgcgcgcc gacgggctct tctaccctag tgccttctcc  
 1500  
 ttcacctaca ccccggaata cagcgtgcgg ccgggtcacc ccggcgctcc cgagcccgcc  
 1560  
 accgacgccg acgcgctcct ggagagcacc catcaggagt tcacgcgcac caacttccac  
 1620  
 ctcttcatcc agacttaggc gcgcccggta gccccggctg cccaccctgg agggctgcgc  
 1680  
 ccgcgccagg cgcggggacg tgtttctggg ttctaggccc tgcttcttg cccctttgct  
 1740  
 gcagaagggc agctgaaggc tcaccctaga aaccgggcct ggtgggtctt acccggtca  
 1800  
 ctccctccct tgccttaca catacaggaa gacaagacct gagtgggtgt gtctttgtgt  
 1860  
 ccgtcgtgta tggctctccc tgtcttcatt tcttctcact ctgtctctaa acctctctct  
 1920  
 ctctcccttc cccctcagta cttagtctac agacctatgt gcgtgtccct atccttctgt  
 1980  
 ccttttctct cttcagctct cctgcctct cacacacaat tttacatgcc ccgaggagcc  
 2040  
 aagtttggga catttaccct ccaggcatct atgtccctc ttgaagagaa aacacacagc  
 2100  
 ttcacacatc caggcatagg gggcaagctc ttggggcacc aggaccctgg agcaccaggt  
 2160  
 ccttctctga atattagatc cacctggaga accgggtctc tctaagtctc acctggggaa  
 2220  
 ttcgggtccca cctggggcac cagttccac ctagagcact gtgtcctgcc ctagagcaca  
 2280  
 aagacctgct cctcccagaa ctctctctga ctgcagccag gcatagtacc cttgcctgtg  
 2340  
 tttgtccctt ggtccacaga tttgggtggc  
 2370

&lt;210&gt; 5166

&lt;211&gt; 521

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5166

Met Asp Pro Ala Gly Ala Ala Asp Pro Ser Val Pro Pro Asn Pro Leu

1 5 10 15

Thr His Leu Ser Leu Gln Asp Arg Ser Glu Met Gln Leu Gln Ser Glu

20										25					30				
Ala	Asp	Arg	Arg	Ser	Leu	Pro	Gly	Thr	Trp	Thr	Arg	Ser	Ser	Pro	Glu				
35							40	45											
His	Thr	Thr	Ile	Leu	Arg	Gly	Gly	Val	Arg	Arg	Cys	Leu	Gln	Gln	Gln				
50						55	60												
Cys	Glu	Gln	Thr	Val	Arg	Ile	Leu	His	Ala	Lys	Val	Ala	Gln	Lys	Ser				
65	70					75										80			
Tyr	Gly	Asn	Glu	Lys	Arg	Phe	Phe	Cys	Pro	Pro	Pro	Cys	Val	Tyr	Leu				
85				90											95				
Ser	Gly	Pro	Gly	Trp	Arg	Val	Lys	Pro	Gly	Gln	Asp	Gln	Ala	His	Gln				
100							105					110							
Ala	Gly	Glu	Thr	Gly	Pro	Thr	Val	Cys	Gly	Tyr	Met	Gly	Leu	Asp	Ser				
115							120					125							
Ala	Ser	Gly	Ser	Ala	Thr	Glu	Thr	Gln	Lys	Leu	Asn	Phe	Glu	Gln	Gln				
130						135					140								
Pro	Asp	Ser	Arg	Glu	Phe	Gly	Cys	Ala	Lys	Thr	Leu	Tyr	Ile	Ser	Asp				
145	150					155										160			
Ala	Asp	Lys	Arg	Lys	His	Phe	Arg	Leu	Val	Leu	Arg	Leu	Val	Leu	Arg				
165				170											175				
Gly	Gly	Arg	Glu	Leu	Gly	Thr	Phe	His	Ser	Arg	Leu	Ile	Lys	Val	Ile				
180				185											190				
Ser	Lys	Pro	Ser	Gln	Lys	Lys	Gln	Ser	Leu	Lys	Asn	Thr	Asp	Leu	Cys				
195						200					205								
Ile	Ser	Ser	Gly	Ser	Lys	Val	Ser	Leu	Phe	Asn	Arg	Leu	Arg	Ser	Gln				
210						215					220								
Thr	Val	Ser	Thr	Arg	Tyr	Leu	Ser	Val	Glu	Asp	Gly	Ala	Phe	Val	Ala				
225	230					235										240			
Ser	Ala	Arg	Gln	Trp	Ala	Ala	Phe	Thr	Leu	His	Leu	Ala	Asp	Gly	His				
245				250											255				
Ser	Ala	Gln	Gly	Asp	Phe	Pro	Pro	Arg	Glu	Gly	Tyr	Val	Arg	Tyr	Gly				
260				265											270				
Ser	Leu	Val	Gln	Leu	Val	Cys	Thr	Val	Thr	Gly	Ile	Thr	Leu	Pro	Pro				
275				280											285				
Met	Ile	Ile	Arg	Lys	Val	Ala	Lys	Gln	Cys	Ala	Leu	Leu	Asp	Val	Asp				
290						295					300								
Glu	Pro	Ile	Ser	Gln	Leu	His	Lys	Cys	Ala	Phe	Gln	Phe	Pro	Gly	Ser				
305	310					315										320			
Pro	Pro	Gly	Gly	Gly	Gly	Thr	Tyr	Leu	Cys	Leu	Ala	Thr	Glu	Lys	Val				
325				330											335				
Val	Gln	Phe	Gln	Ala	Ser	Pro	Cys	Pro	Lys	Glu	Ala	Asn	Arg	Ala	Leu				
340				345											350				
Leu	Asn	Asp	Ser	Ser	Cys	Trp	Thr	Ile	Ile	Gly	Thr	Glu	Ser	Val	Glu				
355						360					365								
Phe	Ser	Phe	Ser	Thr	Ser	Leu	Ala	Cys	Thr	Leu	Glu	Pro	Val	Thr	Pro				
370						375					380								
Val	Pro	Leu	Ile	Ser	Thr	Leu	Glu	Leu	Ser	Gly	Gly	Gly	Asp	Val	Ala				
385	390					395										400			
Thr	Leu	Glu	Leu	His	Gly	Glu	Asn	Phe	His	Ala	Gly	Leu	Lys	Val	Trp				
405				410											415				
Phe	Gly	Asp	Val	Glu	Ala	Glu	Thr	Met	Tyr	Arg	Tyr	Gly	Val	Xaa	Ser				
420				425											430				
Pro	Arg	Ser	Leu	Val	Cys	Val	Val	Pro	Asp	Val	Ala	Ala	Phe	Cys	Ser				
435						440					445								
Asp	Trp	Arg	Trp	Leu	Arg	Ala	Pro	Ile	Thr	Ile	Pro	Met	Ser	Leu	Val				

450		455		460											
Arg	Ala	Asp	Gly	Leu	Phe	Tyr	Pro	Ser	Ala	Phe	Ser	Phe	Thr	Tyr	Thr
465				470				475						480	
Pro	Glu	Tyr	Ser	Val	Arg	Pro	Gly	His	Pro	Gly	Val	Pro	Glu	Pro	Ala
			485					490						495	
Thr	Asp	Ala	Asp	Ala	Leu	Leu	Glu	Ser	Ile	His	Gln	Glu	Phe	Thr	Arg
		500					505						510		
Thr	Asn	Phe	His	Leu	Phe	Ile	Gln	Thr							
	515					520									

&lt;210&gt; 5167

&lt;211&gt; 878

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5167

```

gggccccgga ccaggcgctg gggacacagc agtgaaaata ctaacattgt ttctgccctc
60
acggagctca cagtgtaca gggagacaaa tagacctgtc agtagataac atgaaaataa
120
ttggactgtg tgctgcagac acaatatccc aggtctatga gaatgtcaat acagacttca
180
cgtgggaaat ggtgaggcaa taaggatcgt ttcccttgat gaaatggagc ttgcagaaga
240
aggcagggtc agttgtgggg agctctgggt ggaggtggag ggagtgcatt ccaagctgag
300
ccaagctatg acacctgagt ttctgcctc tgtgctgcct cctgttttc cattcccggg
360
tctcagcttc acttgtgggc tgagagtcct tgcgtgggtt atttttctgc ctttctcagg
420
gccttgggtt ccccaaagt cacatgggca cagtaacacc catgtcctag ggtgaagat
480
ggcatgatat gatgtatgta aaatgcttgg cacaagggtt ctcaccgaag tctggaggag
540
ctgtccaggg ttctggagac gaaacggagc ccgctgggaa ctgtcctgag ccccggtgct
600
gaaacagatc gcggttctct tctcggacct cccgagaggc gctgtccgga tatttgggtg
660
tcccaagcag tcagccctgc tgggtctctgc ttccagacc gtcaaacttc gccatctctg
720
tccctttttg ggaaaatgtc catgcgccaa cctgcaaacc agcctcattc ccggcatccc
780
acgtccctca gaccacccct cctcccacgc agctgcggga ctccccctct gtgtgectca
840
cctgcttcca gtcttgttgg cagatgcagg tgtcccg
878

```

&lt;210&gt; 5168

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5168

Met Pro Gly Met Arg Leu Val Cys Arg Leu Ala His Gly His Phe Pro

1	5	10	15
Lys Lys Gly Gln Arg Trp Arg Ser Leu Thr Val Trp Lys Ala Glu Thr			
	20	25	30
Ser Arg Ala Asp Cys Leu Gly Ala Pro Asn Ile Arg Thr Ala Pro Leu			
	35	40	45
Gly Arg Ser Glu Lys Arg Thr Ala Ile Cys Phe Ser Thr Gly Ala Gln			
	50	55	60
Asp Ser Ser Gln Arg Ala Pro Phe Arg Leu Gln Asn Pro Gly Gln Leu			
65	70	75	80
Leu Gln Thr Ser Val Arg Asn Leu Val Pro Ser Ile Leu His Thr Ser			
	85	90	95
Tyr His Ala Ile Phe Asn Pro Arg Thr Trp Val Leu Leu Cys Pro Cys			
	100	105	110
Asp Ile Trp Gly Thr Gln Gly Pro Glu Lys Gly Arg Lys Ile Thr His			
	115	120	125
Ala Gly Thr Leu Ser Pro Gln Val Lys Leu Arg Thr Gly Asn Gly Lys			
	130	135	140
Gln Gly Gly Ser Thr Glu Ala Gly Asn Ser Gly Val Ile Ala Trp Leu			
145	150	155	160
Ser Leu Glu Cys Thr Pro Ser Thr Ser Thr Gln Ser Ser Pro Gln Leu			
	165	170	175
Thr Leu Pro Ser Ser Ala Ser Ser Ile Ser Ser Arg Glu Thr Ile Leu			
	180	185	190
Ile Ala Ser Pro Phe Pro Thr			
195			

&lt;210&gt; 5169

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5169

```

accggtggct ttgcactcta cccgctgctc aacgaggctg cgccgttggc gctggggggc
60
ggtttggtgc ctgaggagct gccaccatcc cgcggggggc tgggtgaggc actgggtgccc
120
gtggagctta gcctcagcga gttcctgcta ctcttcacca ctgctggcat ctacgtggat
180
ggcgcaggcc gcaagtctcg tggccacgag ctgttggtggc cagcagcgcc catgggctgg
240
gggtatgcgg cccctacct gacagtgttc agcgagaact ccatcgatgt gtttgacgtg
300
aggagggcag aatgggtgca gaccgtgccg ctcaagaagg tgcggcccct caatccagag
360
ggctccctgt tcctctacgg caccgagaag gtccgcctga cctacctcag gaaccagctg
420
gcagagaagg acgagttcga catcccggac ctcaccgaca acagccggcg ccagctgttc
480
ctcaccaaga gcaagcgccg cttctttttc cgcgtgtcgg aggagcagca gaagcagcag
540
cgcagggaga tgctgaagga cccttttgtg cgctccaagc tcattctgcc gcctaccaac
600
ttcaaccac
609

```

<210> 5170  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 5170  
 Thr Gly Gly Phe Ala Leu Tyr Pro Leu Leu Asn Glu Ala Ala Pro Leu  
 1 5 10 15  
 Ala Leu Gly Ala Gly Leu Val Pro Glu Glu Leu Pro Pro Ser Arg Gly  
 20 25 30  
 Gly Leu Gly Glu Ala Leu Gly Ala Val Glu Leu Ser Leu Ser Glu Phe  
 35 40 45  
 Leu Leu Leu Phe Thr Thr Ala Gly Ile Tyr Val Asp Gly Ala Gly Arg  
 50 55 60  
 Lys Ser Arg Gly His Glu Leu Leu Trp Pro Ala Pro Met Gly Trp  
 65 70 75 80  
 Gly Tyr Ala Ala Pro Tyr Leu Thr Val Phe Ser Glu Asn Ser Ile Asp  
 85 90 95  
 Val Phe Asp Val Arg Arg Ala Glu Trp Val Gln Thr Val Pro Leu Lys  
 100 105 110  
 Lys Val Arg Pro Leu Asn Pro Glu Gly Ser Leu Phe Leu Tyr Gly Thr  
 115 120 125  
 Glu Lys Val Arg Leu Thr Tyr Leu Arg Asn Gln Leu Ala Glu Lys Asp  
 130 135 140  
 Glu Phe Asp Ile Pro Asp Leu Thr Asp Asn Ser Arg Arg Gln Leu Phe  
 145 150 155 160  
 Leu Thr Lys Ser Lys Arg Arg Phe Phe Phe Arg Val Ser Glu Glu Gln  
 165 170 175  
 Gln Lys Gln Gln Arg Arg Glu Met Leu Lys Asp Pro Phe Val Arg Ser  
 180 185 190  
 Lys Leu Ile Ser Pro Pro Thr Asn Phe Asn His  
 195 200

<210> 5171  
 <211> 2060  
 <212> DNA  
 <213> Homo sapiens

<400> 5171  
 gaacagaggg ggtggaaact gcatcacaga tgttttccaa ggtccagggt ggaatctgag  
 60  
 ctctagtgtc tgactttgag atgcattata tttttaacac ataaatgagg ggatccatat  
 120  
 cacattcttt cttgtggacc accaaattga aggccttctt gtaattcaca agcagcagct  
 180  
 ctccagcatc tctccgtagc ctgggtgaag tcccagaagc tgggtgtgcat cattttccaa  
 240  
 ggtggcagag ctgcttgctc tgcagatcat tcctttgaga gaggagtaca agtgaagaaa  
 300  
 caaggaggca cttcctgtag gagcactgat gtgccttgct cacactcccc tctgagcttt  
 360  
 actggtaaga gagctccgac tgaacatgct ggcagttga gcacttttcc atcagcaaca  
 420

acagcgagga tggaaatgga aaggaaccga actaaaatgc atttcccttt gcagggcaga  
480  
gagctaagct cttaggaata gtgttataga aataagcacc ctaacttcaa ttcctgaaaa  
540  
tggttggttaa tggagagaat tttggagttt cacttaatat tttcccatcg gtcgccataa  
600  
ataagtcttc aggcgctcct agaagagtcc cagcccaagg ctcgattaag gaccacactg  
660  
caggtctgag gctcactgct ctgagtcctg aacaccagag ccctgcagag agtggtgata  
720  
acacatcatc tctgcaaaga ggaacctctc ccccgccgc cacttcactc aggttctac  
780  
tgagcagcaa ggacagcctg ggtttcaaat gccacttccc ctgctttagg gatccagggtg  
840  
tcctgatagc gtgaccctgc tgaggcaagg tatcaactcc gagagtgact gagtcaactga  
900  
gcgtggcaca tgaacaaacg tcatgacaaa gattctctga gtgaagttaa caccacgtat  
960  
tttacctttg caaaaaacaa actggcacc caggttctaa ctacggacgg acgatatctt  
1020  
tgccctccaca ccagattcc tggaaatggc taacgtttcc tttctagggg aagggtcgag  
1080  
gaatactcaa gtgctagctt agcagctttg ttcagtccag atcagagctg ttaggtaaaag  
1140  
gcctaaccac ctccctgcag tctcttatat ctcaagcttt aggaacccat ttctaaatgt  
1200  
acactagcgg agaatttata ttgtcagcct tgattaccat aggacaggca gaaaggcgat  
1260  
aatttgatc ttttaataa aaagaagctt ttaacttttc cagcctatta ttataactga  
1320  
gttatattca ctgtggctca aactaattgg cattgtggaa catttcttta ccttcaaagt  
1380  
tttctccacc aatcatttca gttctattgc agtcctggtg ccatatgtcc cctgcaaatt  
1440  
gtgaaagtaa ttagtgacaa aatagcagcc tgctcctttt caatggcgaa actgtcggca  
1500  
ttagcagttt tgggtaagct ggcggtacta taacacgtac tggaaacctg ttcctcatca  
1560  
ccacctacca gattctggaa atgccgtctt ctagaaaacg atggcgtttg tgggtgctct  
1620  
cttttgaaag gaacagtaat ttgtgtggat attgttaaag tgtttaaaga atattttgac  
1680  
aattaagttt acattttaca attgctttat tttttattaa aatagttgta tataaatatt  
1740  
accctatttc actgttggtc aagtaaatct aaaccttgta gacaagttag tcacctgata  
1800  
tgtatagaag ctgtgatata tagagtacat ttattgtgta aatgtttatg aatataattg  
1860  
ttcctgtgtt tttataagtt ggggatattt tggtgtttta cggcaacaaa atttattgca  
1920  
tttaaaggt ttttatgtaa tagaaatcac gcaaaatagt gaaggattta aaatatgtat  
1980  
atgatacatg taaatgtaca aactttagaa agaaataaat ccaacaaatt tcaaaaaaaaa  
2040



aaaaaaaaaa aaaaaaaaaa  
2060

<210> 5172  
<211> 104  
<212> PRT  
<213> Homo sapiens

<400> 5172  
Met Leu Val Asn Gly Glu Asn Phe Gly Val Ser Leu Asn Ile Phe Pro  
1 5 10 15  
Ser Val Ala Ile Asn Lys Ser Ser Gly Ala Pro Arg Arg Val Pro Ala  
20 25 30  
Gln Gly Ser Ile Lys Asp His Thr Ala Gly Leu Arg Leu Thr Ala Leu  
35 40 45  
Ser Pro Glu His Gln Ser Pro Ala Glu Ser Gly Asp Asn Thr Ser Ser  
50 55 60  
Leu Gln Arg Gly Thr Ser Pro Pro Ala Ala Thr Ser Leu Arg Leu Leu  
65 70 75 80  
Leu Ser Ser Lys Asp Ser Leu Gly Phe Lys Cys His Phe Pro Cys Phe  
85 90 95  
Arg Asp Pro Gly Val Leu Ile Ala  
100

<210> 5173  
<211> 557  
<212> DNA  
<213> Homo sapiens

<400> 5173  
ctttgatgcc ttatttgatt caacacatgc ttattatatg cttgctgtgt gccgggcccc  
60  
agaccaggcg ctggagacac agcagtgaat atactaacat tgtttctgcc ctcacggagc  
120  
tcacagtgtg acagggagac aaatagacct gtcagtagat aacatgaaaa taattggact  
180  
atgtgctgca gacacaatat cccaggtcta tgagaatgtc aatacagact tcacgtggga  
240  
aatggtgagg caataaggat cgtttccctt gatgaaatgg agcttgcaga agaaggcagg  
300  
gtcagttgtg gggagctctg gttggagggtg gagggagtgc attccaagct ggaggagctg  
360  
tccagggttc tggagactaa acggagcccc ctgggaactg tcttgagccc cgggtgctgaa  
420  
acagatcgcg gttctcttct cggacctccc gagaagcgct gtccggatat ttggtgctcc  
480  
caagcagtca gccctgctgg tctctgcttt ccagaccggc aaacttcgcc gtctctgtcc  
540  
ctttctggga aaatggc  
557

<210> 5174  
<211> 93  
<212> PRT

<213> Homo sapiens

<400> 5174

```

Met Glu Leu Ala Glu Glu Gly Arg Val Ser Cys Gly Glu Leu Trp Leu
 1           5           10           15
Glu Val Glu Gly Val His Ser Lys Leu Glu Glu Leu Ser Arg Val Leu
          20           25           30
Glu Thr Lys Arg Ser Pro Leu Gly Thr Val Leu Ser Pro Gly Ala Glu
          35           40           45
Thr Asp Arg Gly Ser Leu Leu Gly Pro Pro Glu Lys Arg Cys Pro Asp
          50           55           60
Ile Trp Cys Ser Gln Ala Val Ser Pro Ala Gly Leu Cys Phe Pro Asp
65           70           75           80
Arg Gln Thr Ser Pro Ser Leu Ser Leu Ser Gly Lys Met
          85           90

```

<210> 5175

<211> 272

<212> DNA

<213> Homo sapiens

<400> 5175

```

ccatggcagc tccagagacc aggtggaggg gaaatcaccc cacgctccc agcagagagc
60
ttcggagcca gccagcctca ctgtgcgtgg cccacaacag ctgtctccat gtgtcacgtg
120
agggctgccc aacaccaggt agggcagcaa cgcccacgcc ctgcccgggc acagcctccc
180
agaggtcact gccatgccgc actgaccgga gagagggcag tggtagagagg tgcatgccac
240
cccaggcttg ttccgaaggc ccnnnnnncc nc
272

```

<210> 5176

<211> 90

<212> PRT

<213> Homo sapiens

<400> 5176

```

Met Ala Ala Pro Glu Thr Arg Trp Arg Gly Asn His Pro Thr Leu Pro
 1           5           10           15
Ser Arg Glu Leu Arg Ser Gln Pro Ala Ser Leu Cys Val Ala His Asn
          20           25           30
Ser Cys Leu His Val Ser Arg Glu Gly Cys Pro Thr Pro Gly Arg Ala
          35           40           45
Ala Thr Pro Thr Pro Ser Pro Gly Thr Ala Ser Gln Arg Ser Leu Pro
          50           55           60
Cys Arg Thr Asp Arg Arg Glu Gly Ser Gly Glu Arg Cys Met Pro Pro
65           70           75           80
Gln Ala Cys Ser Glu Gly Pro Xaa Xaa Xaa
          85           90

```

<210> 5177

<211> 637

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5177

```

ntcctagtga gtatcgagtt ggtcttatta tcgcgtgaac tgggagcctt tgtttcctgc
60
gtgtcgcagg aagtgaagtt tcgggtacag ccgctaccag agtccctttc tcgcgaggcg
120
gaagaacccc gatcgtgag gagcaagggg gcgctaggaa agggaactgg gttgcgacgg
180
tccggcgaga gagagctggg gtgctggggg gcggggaagt tggggagcag aggccgcttg
240
gtgtccgagt agggtaagac cgcaccgacc cagtccgtta ggaaagaagg gaaacgaggg
300
aattgtcggg cggatccccg gacggagggc taagggttggt tggaaaggcg tgctccccgg
360
atggcgaccg cagatactcc ggccccggcc tccagtggcc tctcgccgaa ggaagaaggg
420
gagcttgaag atggggaaat cagtgcagac gataataaca gccagatacg gagtcggagc
480
agcagcagca gcagcggcgg cgggctgtta ccctatccgc gccgaaggcc tcctcactcg
540
gcccggggcg gtggatctgg cggaggcggt ggctcttctt cgtcatcgtc ctcttctcag
600
cagcagctga ggaatttctc acgctcgcgg cagcgct
637

```

&lt;210&gt; 5178

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5178

```

Met Ala Thr Ala Asp Thr Pro Ala Pro Ala Ser Ser Gly Leu Ser Pro
1      5      10      15
Lys Glu Glu Gly Glu Leu Glu Asp Gly Glu Ile Ser Asp Asp Asn
20      25      30
Asn Ser Gln Ile Arg Ser Arg Ser Ser Ser Ser Ser Gly Gly Gly
35      40      45
Leu Leu Pro Tyr Pro Arg Arg Arg Pro Pro His Ser Ala Arg Gly Gly
50      55      60
Gly Ser Gly Gly Gly Gly Gly Ser Ser Ser Ser Ser Ser Ser Ser Gln
65      70      75      80
Gln Gln Leu Arg Asn Phe Ser Arg Ser Arg His Ala
85      90

```

&lt;210&gt; 5179

&lt;211&gt; 1527

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5179

```

ggaacacagg ccatgccgcc tcctctctct tgggattacc accagtgcac ctggaactat
60

```

gaagttgagc cggatgtaaa agcagtggtat gcagggtttg atgggcatga cattccttat  
120  
gatgccatgt ggctggacat agagcacact gagggcaaga ggtacttcac ctgggacaaa  
180  
aacagattcc ctaaccccaa gaggatgcaa gagctgtca ggaacaaaaa gcgtaagctt  
240  
gtggatcatca gtgatcccca catcaagatt gaacctgact actcagtata tgtgaaggcc  
300  
aaagatcagg gcttctttgt gaagaatcag gaaggggaag actttgaagg ggtgtgttgg  
360  
ccagggtctct cctcttacct ggatttcacc aatcccaagg tcagagagtgt gtattcaagt  
420  
ctttttgctt tcctgttta tcagggatct acggacatcc tcttcctttg gaatgacatg  
480  
aatgagcctt ctgtcttttag agggccagag caaaccatgc agaagaatgc cattcatcat  
540  
ggcaattggg agcacagaga gctccacaac atctacggtt tttatcatca aatggctact  
600  
gcagaaggac tgataaaacg atctaaaggg aaggagagac cctttgttct tacacgttct  
660  
ttctttgctg gatcacaaaa gtatgggtgcc gtgtggacag gcgacaacac agcagaatgg  
720  
agcaacttga aaatttctat cccaatgtta ctcaacttca gcattactgg gatctctttt  
780  
tgcggagctg acataggcgg gttcattggg aatccagaga cagagctgct agtgcgttgg  
840  
taccaggctg gagcctacca gcccttcttc cgtggccatg ccaccatgaa caccaagcga  
900  
cgagagccct ggctcttttg ggaggaacac acccgactca tccgagaagc catcagagag  
960  
cgctatggcc tcctgccata ttggtattct ctgttctacc atgcacacgt ggcttcccaa  
1020  
cctgtcatga ggctctgtg ggtagagttc cctgatgaac taaagacttt tgatatggaa  
1080  
gatgaataca tgctggggag tgcattattg gttcatccag tcacagaacc aaaagccacc  
1140  
acagttgatg tgtttcttcc aggatcaa atgaggtctggt atgactataa gacatttgct  
1200  
cattgggaag gaggggtgtac tgtaaagatc ccagtagcct tggacactat tccagtgttt  
1260  
cagcgaggtg gaagtgtgat accaataaag acaactgtag gaaaatccac aggctggatg  
1320  
actgaatcct cctagggact ccgggttgc taaagcacta aggggttcttc agtgggtgag  
1380  
ttatatcttg atgatggcca ttcatccaa tacctccacc agaagcaatt tttgcacagg  
1440  
aagttttcat tctgttccag tgttctgac aatagttttg ctgaccagag gggtcattat  
1500  
cccagcaagt gtgtgggtgga gaagatc  
1527

&lt;210&gt; 5180

&lt;211&gt; 444

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5180

Gly Thr Gln Ala Met Pro Pro Pro Leu Ser Trp Asp Tyr His Gln Cys  
 1 5 10 15  
 Thr Trp Asn Tyr Glu Val Glu Pro Asp Val Lys Ala Val Asp Ala Gly  
 20 25 30  
 Phe Asp Gly His Asp Ile Pro Tyr Asp Ala Met Trp Leu Asp Ile Glu  
 35 40 45  
 His Thr Glu Gly Lys Arg Tyr Phe Thr Trp Asp Lys Asn Arg Phe Pro  
 50 55 60  
 Asn Pro Lys Arg Met Gln Glu Leu Leu Arg Asn Lys Lys Arg Lys Leu  
 65 70 75 80  
 Val Val Ile Ser Asp Pro His Ile Lys Ile Glu Pro Asp Tyr Ser Val  
 85 90 95  
 Tyr Val Lys Ala Lys Asp Gln Gly Phe Phe Val Lys Asn Gln Glu Gly  
 100 105 110  
 Glu Asp Phe Glu Gly Val Cys Trp Pro Gly Leu Ser Ser Tyr Leu Asp  
 115 120 125  
 Phe Thr Asn Pro Lys Val Arg Glu Trp Tyr Ser Ser Leu Phe Ala Phe  
 130 135 140  
 Pro Val Tyr Gln Gly Ser Thr Asp Ile Leu Phe Leu Trp Asn Asp Met  
 145 150 155 160  
 Asn Glu Pro Ser Val Phe Arg Gly Pro Glu Gln Thr Met Gln Lys Asn  
 165 170 175  
 Ala Ile His His Gly Asn Trp Glu His Arg Glu Leu His Asn Ile Tyr  
 180 185 190  
 Gly Phe Tyr His Gln Met Ala Thr Ala Glu Gly Leu Ile Lys Arg Ser  
 195 200 205  
 Lys Gly Lys Glu Arg Pro Phe Val Leu Thr Arg Ser Phe Phe Ala Gly  
 210 215 220  
 Ser Gln Lys Tyr Gly Ala Val Trp Thr Gly Asp Asn Thr Ala Glu Trp  
 225 230 235 240  
 Ser Asn Leu Lys Ile Ser Ile Pro Met Leu Leu Thr Leu Ser Ile Thr  
 245 250 255  
 Gly Ile Ser Phe Cys Gly Ala Asp Ile Gly Gly Phe Ile Gly Asn Pro  
 260 265 270  
 Glu Thr Glu Leu Leu Val Arg Trp Tyr Gln Ala Gly Ala Tyr Gln Pro  
 275 280 285  
 Phe Phe Arg Gly His Ala Thr Met Asn Thr Lys Arg Arg Glu Pro Trp  
 290 295 300  
 Leu Phe Gly Glu Glu His Thr Arg Leu Ile Arg Glu Ala Ile Arg Glu  
 305 310 315 320  
 Arg Tyr Gly Leu Leu Pro Tyr Trp Tyr Ser Leu Phe Tyr His Ala His  
 325 330 335  
 Val Ala Ser Gln Pro Val Met Arg Pro Leu Trp Val Glu Phe Pro Asp  
 340 345 350  
 Glu Leu Lys Thr Phe Asp Met Glu Asp Glu Tyr Met Leu Gly Ser Ala  
 355 360 365  
 Leu Leu Val His Pro Val Thr Glu Pro Lys Ala Thr Thr Val Asp Val  
 370 375 380  
 Phe Leu Pro Gly Ser Asn Glu Val Trp Tyr Asp Tyr Lys Thr Phe Ala  
 385 390 395 400  
 His Trp Glu Gly Gly Cys Thr Val Lys Ile Pro Val Ala Leu Asp Thr

	405		410		415										
Ile	Pro	Val	Phe	Gln	Arg	Gly	Gly	Ser	Val	Ile	Pro	Ile	Lys	Thr	Thr
	420						425						430		
Val	Gly	Lys	Ser	Thr	Gly	Trp	Met	Thr	Glu	Ser	Ser				
	435						440								

&lt;210&gt; 5181

&lt;211&gt; 4961

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5181

acgcgtgcag gtggcagagc acccaggcct tgagggtccag gaagcatcat tcccagagct  
60  
gccagagcag tggccctgga aaatatggaa gcagctgtca gccatggccc agggcctgag  
120  
cgtatgattc tcaggaaaag tgggcaggat atctgactgt cagggtgtgcc ggcagaagggt  
180  
tctggcctct tcctgggaaa agccctttta gagtttgtcc tctcacttct ggagaagatg  
240  
cagacacagg agatcctgag gatactgcga ctgcctgagc taggtgactt gggacagttt  
300  
ttccgcagcc tctcggccac caccctcgtg agtatgggtg ccctggctgc catccttgcc  
360  
tactggttca ctacccggcc aaaggccttg caaccacat gcaacctcct gatgcagtcg  
420  
gaagaagtag aggacagtgg cggggcacgg cgatctgtga ttgggtctgg ccctcaattg  
480  
cttaccatt actatgatga tgcccggacc atgtaccagg tgttccgccg tgggcttagc  
540  
atctcagga atgggccctg tcttgggttc aggaagccta agcagcctta ccagtggctg  
600  
tcctaccagg aggtggccga cagggtgaa tttctggggt cgggacttct ccagcacaat  
660  
tgtaaagcat gactgatca gtttattggt gtttttgac aaaatcggcc agagtggatc  
720  
attgtggagc tggcctgcta cacatatcc atggtgggtg tcccgtctta tgacaccctg  
780  
ggccctgggg ctatccgcta catcatcaat acagcggaca tcagcacctg gattgtggac  
840  
aaacctcaga aggctgtgct tctgctagag catgtggaga ggaaggagac tccaggcctc  
900  
aagctgatca tcctcatgga ccatttcgaa gaagccctga aagagagagg gcagaagtgc  
960  
ggggtggtca ttaagtccat gcaggccgtg gaggactgtg gccaaagaaa tcaccaggct  
1020  
cctgtgcccc cgcagcctga tgacctctcc attgtgtggt tcacaagcgg cagcagagg  
1080  
aaccctaaa gtgcgatgct caccatggg aacgtgggtg ctgatttctc aggttttctg  
1140  
aaagtgcag agagtcatg ggctcccact tgtgcggatg tgcacatttc ctatttgcct  
1200  
ttagcacaca tgtttgagcg aatgggtgcag tctgtcgtct attgccacgg agggcgtggt  
1260

ggcttcttcc agggagatat cgccttctc tcagatgaca tgaaggctct atgccccacc  
1320  
atcttccttg tggccccacg actgctgaac cggatgtacg acaagatctt cagccaggca  
1380  
aacacaccat taaagcgctg gctcctggag tttgcagcaa agcgtaagca agccgaggtc  
1440  
cggagtggaa tcatcaggaa tgatagtatc tgggatgaac tcttctttaa taagattcag  
1500  
gccagtcttg gtgggtgtgt gcggatgatt gttactggag cagccccagc atcaccaaca  
1560  
gttctgggat ttctccgggc agctctaggg tgccagggtt atgaaggtta tggccaaact  
1620  
gagtgcacag ctggatgtac cttcaccact cctggcgact ggacctcagg gcacgtaggg  
1680  
gcgcacttc cctgcaatca tatcaagctc gttgatgttg aggaactgaa ctactgggccc  
1740  
tgcaaaggag agggagagat atgtgtgaga ggaccaaagt tgttcaaagg ctacttgaaa  
1800  
gatccagaca ggacgaagga ggccctggac agcgatggct ggcttcacac tggagacatc  
1860  
ggaaaatggc tgccggcagg aactcttaaa attattgata ggaaaaagca tatatttaaa  
1920  
cttgctcagg gagaatatgt tgcacccgag aagattgaga acatctacat ccggagccaa  
1980  
cctgtggcgc aaatctatgt ccatggggac agcttaaagg ccttttttgt aggcatttgt  
2040  
gtgctgacc ctgaagtat gccctcctgg gccagaaga gaggaattga aggaacatat  
2100  
gcagatctct gcacaaataa ggatctgaag aaagccattt tggaagatat ggtgaggtta  
2160  
ggaaaagaaa gtggactcca ttcttttgag caggttaaag ccattcacat ccattctgac  
2220  
atgttctcag ttcaaaatgg cttgctgaca ccaacactaa aagctaagag acctgagctg  
2280  
agagagtact tcaaaaaaca aatagaagag ctttactcaa tctccatgtg aagttcaagg  
2340  
aaagttcttc tcagtgtaat gaactgtcta gcaatattat agttattctt gaaagtaatg  
2400  
agtcaaaatg acacagctga aaatgaataa gcatctgatt ttatgactga gccttttctt  
2460  
gtcccaagag gtctttaaca atattttctc tatcatcaat gagtatattt tatttttatt  
2520  
ataaaaatga tattgtggtg gactgctaaa aatatcacia atggcaatgt aaaaatcaag  
2580  
acattttctc aagaactgtg taccactaaa agtaatatat tgtcaatgtt cacagaacta  
2640  
ttaaacataa aggaaaaaca taagtatat attctactta attatttgtg aatcagtaac  
2700  
cagatgcagc aaatatctag gcaatgtgga ctacctcatt cagtaactga ttgtcaaaat  
2760  
cacaattaaa tcagacttca aaaattaaag ctaggtgtat agaatcatgc taaaagaaaa  
2820  
catgataact catagtctac gtaacttcag agtctttaaa catgacaatc cacattgtca  
2880

tatgtgaaaa ttttctctct gatttttact ttcattcatg aaaaatgaaa attcagaaat  
2940  
tctttttttc ctttttgttt tgagacgggg tctgctctgt cacctaggct ggagtgcagt  
3000  
ggcttaatca tggctcattg cagtctccat ctctgggct cgagtgatcc tcctgtctca  
3060  
cctcccgagt agctgagact acagtacagg cgcattgccac cacacctggc taatagaaat  
3120  
ttttttttta gagattttgc tcaggctggg ctcaaactcc tgagctcaag ggatcctccc  
3180  
gccttggcct ccctagggtg tgggattgca ggcattgagcc attgttccca gccaaattca  
3240  
gatattatta aaacacatgt catatttata tagtaactta caaagacctt tcaatacatt  
3300  
ttctcattta ttaagctcat taaagtattc aggaactacc tagaaaaaat ataatgtaaa  
3360  
actattcaag gatagtgtgt gtatgttcat ggacttctta ttataatgaa ttctaaaaga  
3420  
catctgttga ctctacaatg aatggatcct tgaggaatac ttgggagaag aaactcagag  
3480  
ttatttctca ggataggcag caattaatgt acctacattc cttgctgggg tcttctagtc  
3540  
ttccattccc aatgtgccc tgctatgcct ggaaacccta tatggttgta attctgaaca  
3600  
atttcacttt ttttccagta agaatatcaa ggcagaagggt gggaaggagg ggacattatt  
3660  
tccagggaat atagtttttc aacaatataa ctttgataaa cctcttttaa atgccccaa  
3720  
aaaacttttt aagtcocatg acaaagaaat actgcctaat ggcataatta cattcctaaa  
3780  
atctttaagc gtgccgaagt ttaaccacta aaacctcctt tcttgcatta tgtatttaga  
3840  
tgcacctgt attgggggtg caacaatttc ttataattaa aggccagata ccatggacag  
3900  
caattaagtt ccaagctata gattgtgcct ctgaaaaagg catggacccc aggaacgtgt  
3960  
ttttcttctg tagagacaag actctaaaag catatcaaca atccatatgc aattcatgtg  
4020  
ttaatttaaa atgtatgtgc tcagtgtttg tagtctagaa gtccttttcc cttggaggaa  
4080  
tgccaagcag tttgcaaaaa taaatgctgt tagttaaaaa ccacataatc acatgggcct  
4140  
actgaataaa tatgcatcag tgattatata cttatatttc agtcttgta aaagtgaatc  
4200  
actgtttcat ttgatgtatt taccagctct ttttatccag ttttcttgg gcatattctc  
4260  
tctgaagacc cactgttgca cttctaaatt tgacagttaa gaaatgagct agttctatac  
4320  
acactgattt ttaaaggcgt ttctgaataa actaatactt aaaatgtcca aagtcacatc  
4380  
tgtacagcat tagattttta tatttaatat atatttgact aattaaaagt gaaagttgtt  
4440  
acctgaactg gatattcata ctattttaag ggcaagttgc ttacatttca ataacaacaa  
4500



aaaaagaatc tgtttcccat tgtcctccta ctcaactaaa attcatagtt ggctttaagc  
 4560  
 ccaaaagaat tttgaacaat gtgacagaaa caagtaatgt aaaacttatt ttgttttatt  
 4620  
 tatactttat aatagttaga tataacagat tatggacaac ttaatatttc ttcttttttg  
 4680  
 ctgggcgcgg tggctcatgc ctgtgggtccc ggcacttttg gaggccgagg cgggcagatc  
 4740  
 acgaggtcag gagatcgaga ccatacctggc taacacagtg aaaccccgtc tctactaaaa  
 4800  
 gaatacaaaa aattagccgg gcgttgtggc gggcgctgt agtcccagct actcgggagg  
 4860  
 ctgaggcagg ggaatggcat gagcctggga ggcggagctt gcagtgagcc gagatcccg  
 4920  
 cactgtactc cagcctgggc aacagaacga gactccgtct c  
 4961

<210> 5182

<211> 697

<212> PRT

<213> Homo sapiens

<400> 5182

Met	Gln	Thr	Gln	Glu	Ile	Leu	Arg	Ile	Leu	Arg	Leu	Pro	Glu	Leu	Gly
1				5					10					15	
Asp	Leu	Gly	Gln	Phe	Phe	Arg	Ser	Leu	Ser	Ala	Thr	Thr	Leu	Val	Ser
			20					25					30		
Met	Gly	Ala	Leu	Ala	Ala	Ile	Leu	Ala	Tyr	Trp	Phe	Thr	His	Arg	Pro
		35					40					45			
Lys	Ala	Leu	Gln	Pro	Pro	Cys	Asn	Leu	Leu	Met	Gln	Ser	Glu	Glu	Val
		50				55					60				
Glu	Asp	Ser	Gly	Gly	Ala	Arg	Arg	Ser	Val	Ile	Gly	Ser	Gly	Pro	Gln
		65			70					75				80	
Leu	Leu	Thr	His	Tyr	Tyr	Asp	Asp	Ala	Arg	Thr	Met	Tyr	Gln	Val	Phe
			85					90						95	
Arg	Arg	Gly	Leu	Ser	Ile	Ser	Gly	Asn	Gly	Pro	Cys	Leu	Gly	Phe	Arg
		100						105					110		
Lys	Pro	Lys	Gln	Pro	Tyr	Gln	Trp	Leu	Ser	Tyr	Gln	Glu	Val	Ala	Asp
		115					120					125			
Arg	Ala	Glu	Phe	Leu	Gly	Ser	Gly	Leu	Leu	Gln	His	Asn	Cys	Lys	Ala
		130				135					140				
Cys	Thr	Asp	Gln	Phe	Ile	Gly	Val	Phe	Ala	Gln	Asn	Arg	Pro	Glu	Trp
		145			150				155					160	
Ile	Ile	Val	Glu	Leu	Ala	Cys	Tyr	Thr	Tyr	Ser	Met	Val	Val	Val	Pro
			165					170						175	
Leu	Tyr	Asp	Thr	Leu	Gly	Pro	Gly	Ala	Ile	Arg	Tyr	Ile	Ile	Asn	Thr
		180					185						190		
Ala	Asp	Ile	Ser	Thr	Val	Ile	Val	Asp	Lys	Pro	Gln	Lys	Ala	Val	Leu
		195					200					205			
Leu	Leu	Glu	His	Val	Glu	Arg	Lys	Glu	Thr	Pro	Gly	Leu	Lys	Leu	Ile
		210				215					220				
Ile	Leu	Met	Asp	Pro	Phe	Glu	Glu	Ala	Leu	Lys	Glu	Arg	Gly	Gln	Lys
		225			230					235				240	
Cys	Gly	Val	Val	Ile	Lys	Ser	Met	Gln	Ala	Val	Glu	Asp	Cys	Gly	Gln

4362

675  
 Ile Glu Glu Leu Tyr Ser Ile Ser Met  
 690

680  
 695

685

<210> 5183  
 <211> 2466  
 <212> DNA  
 <213> Homo sapiens

<400> 5183  
 nngtgcacgt gccaatgga tgcggcggcg aagggccgct cctcgaagta ttccaacttg  
 60  
 tcccgccagt tggggcccag gtcgttggtg agagttttca tcatctgctt cagtggcatg  
 120  
 agcctgcgt ccgaggaccc ctccaggaag aaggccgtgc tgggttccag tcctttcctg  
 180  
 tccgaggcca atgcagagcg gatcgtgcgc acgctctgca aggtgcgtgg tgcggcactc  
 240  
 aagctgggccc agatgctgag catccaggat gatgccttta tcaacccccca cctggctaag  
 300  
 atcttcgagc ggggtgcggca gagcgcggac ttcattgccac tgaagcagat gatgaaaact  
 360  
 ctcaacaacg acctgggccc caactggcgg gacaagttgg aatacttcga ggagcggccc  
 420  
 ttcgccgccg catccattgg gcaggtgcac ttggcccgaa tgaaggcggg ccgcgagggtg  
 480  
 gccatgaaga tccagtaccc tggcgtggcc cagagcatca acagtgatgt caacaacctc  
 540  
 atggccgtgt tgaacatgag caacatgctt ccagaaggcc tgttccccga gcacctgac  
 600  
 gacgtgctga ggcgggagct ggccctggag tgtgactacc agcgagaggc cgcctgtgcc  
 660  
 cgcaagtcca gggacctgct gaagggccac cccttcttct atgtgcctga gattgtggat  
 720  
 gagctctgca gcccacatgt gctgaccaca gagctggtgt ctggcttccc cctggaccag  
 780  
 gccgaagggc tcagccagga gattcggaac gagatctgct acaacatcct ggttctgtgc  
 840  
 ctgagggagc tgtttgagtt ccacttcattg caaacagacc ccaactggtc caacttcttc  
 900  
 tatgaccccc agcagcaciaa ggtggctctt ttggattttg gggcaacgcg ggaatatgac  
 960  
 agatccttca ccgaccteta cattcagatc atcagggtct ctgccgacag ggacagggag  
 1020  
 actgtgcggg cgaaatccat agagatgag ttcctcaccg gctacgaggt caaggctcatg  
 1080  
 gaagacgccc acttgatgc catcctcatc ctgggggagg ccttcgcctc cgatgagcct  
 1140  
 tttgattttg gcactcagag caccaccgag aagatccaca acctgattcc cgtcatgctg  
 1200  
 aggcaccgtc tcgtcccccc acccgaggaa acctactccc tgcacaggaa gatggggggc  
 1260  
 tccttctca tctgtccaa gctgaaggcc cgcttcccct gcaaggccat gttcgaggag  
 1320

gcctacagca actactgcaa gaggcaggcc cagcagtagg gctgcggggc acgcccaggg  
 1380  
 cggctccgcg ggaactctct ccctcagaca ggccaaaaac cagtagcgag gtcgtgggtga  
 1440  
 tgctcttttt aactcctttg cccaataagg ggggtggctg cctggagccc cgtagccagc  
 1500  
 gctttccacg gtttctgttg ctaaattggt gtagggtagg aagtgaaga atgaagatga  
 1560  
 agccccactg ctcggtcagt ctgcctccgt gtgtcctctg aaataagcag atgaagatga  
 1620  
 aagggaact ttgttttctt ctttttcctg atgtgaatgt taagcagaag ggagagagtc  
 1680  
 cttactccct tccaatctct gttcagtgc aaacccagaa acatgaacag atacgattgt  
 1740  
 gggattttta tcactctgtg agtaggtgtg tgtatgtgtt tctagagtga gatttgtgtt  
 1800  
 ttctgccctt ttctctccca gccgatgggc tggagctggg agaggtgctg agctaacagt  
 1860  
 gccacaagt gtccttaag cctgcgaggc ccaggcctgt ggggctgggt ctcacctttg  
 1920  
 acagctgaat gttcctaaag aactgctgcc ccacagttag ggtgggagca gcggaacagg  
 1980  
 gaatgccaga cacaggctcg ctgctgctgg aaggcggggt gggacttcct tcctctgtcc  
 2040  
 ggagaggcac aggtgtcacc agttccagcc aaaggctcct cacaggcgct gtgaattttt  
 2100  
 gtacaagtct tgtaattatc gaatcaacaa cttgtttcaa tttaataaaa atgctcatgg  
 2160  
 gaaggcgggc gcggaggcgg ctagaagggt accgcggatc ccagcttcct gcagtcagcc  
 2220  
 ctgaaggatg gctgccatat tgggagacac catcatgggt gctaaaggcc ttgtcaagct  
 2280  
 gaccctgctg ctccgaggac ccctcagga agaaggccgt gctgggttcc agtcctttcc  
 2340  
 tgtccgaggc caatgcagag cggatcgtgc gcacgctctg caaggtgcgt ggtgcggcac  
 2400  
 tcaagctggg ccagatgctg agcatccagg atgatgcctt tatcaacccc cacctggcta  
 2460  
 agatct  
 2466

&lt;210&gt; 5184

&lt;211&gt; 395

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5184

Pro	Phe	Leu	Ser	Glu	Ala	Asn	Ala	Glu	Arg	Ile	Val	Arg	Thr	Leu	Cys
1				5				10						15	
Lys	Val	Arg	Gly	Ala	Ala	Leu	Lys	Leu	Gly	Gln	Met	Leu	Ser	Ile	Gln
			20					25					30		
Asp	Asp	Ala	Phe	Ile	Asn	Pro	His	Leu	Ala	Lys	Ile	Phe	Glu	Arg	Val
		35					40					45			
Arg	Gln	Ser	Ala	Asp	Phe	Met	Pro	Leu	Lys	Gln	Met	Met	Lys	Thr	Leu

50 55 60  
 Asn Asn Asp Leu Gly Pro Asn Trp Arg Asp Lys Leu Glu Tyr Phe Glu  
 65 70 75 80  
 Glu Arg Pro Phe Ala Ala Ala Ser Ile Gly Gln Val His Leu Ala Arg  
 85 90 95  
 Met Lys Gly Gly Arg Glu Val Ala Met Lys Ile Gln Tyr Pro Gly Val  
 100 105 110  
 Ala Gln Ser Ile Asn Ser Asp Val Asn Asn Leu Met Ala Val Leu Asn  
 115 120 125  
 Met Ser Asn Met Leu Pro Glu Gly Leu Phe Pro Glu His Leu Ile Asp  
 130 135 140  
 Val Leu Arg Arg Glu Leu Ala Leu Glu Cys Asp Tyr Gln Arg Glu Ala  
 145 150 155 160  
 Ala Cys Ala Arg Lys Phe Arg Asp Leu Leu Lys Gly His Pro Phe Phe  
 165 170 175  
 Tyr Val Pro Glu Ile Val Asp Glu Leu Cys Ser Pro His Val Leu Thr  
 180 185 190  
 Thr Glu Leu Val Ser Gly Phe Pro Leu Asp Gln Ala Glu Gly Leu Ser  
 195 200 205  
 Gln Glu Ile Arg Asn Glu Ile Cys Tyr Asn Ile Leu Val Leu Cys Leu  
 210 215 220  
 Arg Glu Leu Phe Glu Phe His Phe Met Gln Thr Asp Pro Asn Trp Ser  
 225 230 235 240  
 Asn Phe Phe Tyr Asp Pro Gln Gln His Lys Val Ala Leu Leu Asp Phe  
 245 250 255  
 Gly Ala Thr Arg Glu Tyr Asp Arg Ser Phe Thr Asp Leu Tyr Ile Gln  
 260 265 270  
 Ile Ile Arg Ala Ala Ala Asp Arg Asp Arg Glu Thr Val Arg Ala Lys  
 275 280 285  
 Ser Ile Glu Met Lys Phe Leu Thr Gly Tyr Glu Val Lys Val Met Glu  
 290 295 300  
 Asp Ala His Leu Asp Ala Ile Leu Ile Leu Gly Glu Ala Phe Ala Ser  
 305 310 315 320  
 Asp Glu Pro Phe Asp Phe Gly Thr Gln Ser Thr Thr Glu Lys Ile His  
 325 330 335  
 Asn Leu Ile Pro Val Met Leu Arg His Arg Leu Val Pro Pro Pro Glu  
 340 345 350  
 Glu Thr Tyr Ser Leu His Arg Lys Met Gly Gly Ser Phe Leu Ile Cys  
 355 360 365  
 Ser Lys Leu Lys Ala Arg Phe Pro Cys Lys Ala Met Phe Glu Glu Ala  
 370 375 380  
 Tyr Ser Asn Tyr Cys Lys Arg Gln Ala Gln Gln  
 385 390 395

&lt;210&gt; 5185

&lt;211&gt; 1657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5185

gtgcactcac agaatctgct gcttcccagg tcttttggat gtgaaatgaa accccaagga

60

ctgctttaac aaggggcaaa aacacatgca accaaagcca gcagttatgc cgaagcatcc

120

cggattccca tgagaaactc tctggatcta gttcctctac gtcacatgag tgtgcaaaca  
180  
ggagactaca agagtttaaa aatactggga ctgctggaga tttccctggc catatatagt  
240  
tcacttgttt cacagatctc actctgtcac ccaggctgga gtacagtggg gcgatctcaa  
300  
cttactgcaa cctccgcctc ccggttcaag cgattcgcct gcctctgcct tagctatgtc  
360  
cctttcagaa aaattctact tcaagagaag atttggtttc aggatgtctc ctggactgga  
420  
gggcatgtac ctagagtccc acgaactggc tgggtataca gaaatgtcca gaggccggag  
480  
agcgtttcag atcacatgta ccggatggca gttatggcta tggatgacaa agatgaccgt  
540  
cttaacaaag acncggaagc tatgaagcag ataaccagc tcctaccaga ggacctcaga  
600  
aaggagctct atgaactttg ggaagagtac gagaccaat ctagtgacaa agccaaattt  
660  
gtgaagcagc tagaccaatg tgaaatgatt cttcaagcat ctgaatatga agaccttgaa  
720  
cacaaacctg ggagactgca agacttctat gattccacag caggaaaatt caatcacctc  
780  
gagatagtc agcttgtttc tgaacttgag gcagaaagaa gcactaacat agctgcagct  
840  
gccagtgagc cacactcctg agacactctc taaattgctg cactcctgta acaaacatta  
900  
tttttccatt tcattgtatt gtgttttgcc attgttggtc tgttgatttc cctagatgtg  
960  
agtctgtttg ttttcaattg tctgaacttc agcaagaaat gtgatacaac ttgggacta  
1020  
aaagaagcca cagaacagga agcggctcatg aaagtgccat ggatgaacac tggaggtggc  
1080  
agtgcctgtt tatgaactaa ataaataaat attaaacacc taaaatatta gaatatttat  
1140  
tggagattta aaatcatctt attctgactt aattaccgat atccccgaag gctaggttca  
1200  
ttgaataata gaaaatttca ttatgattgc ttttaagaac agattcttca gctgatttag  
1260  
tgataagaat ccagaaaaga aaatgtacta gtgatgtatt ctctccccag atgaaattgc  
1320  
tgccttatte agatttactc tcttgagcca gattttgaat ttcactgcag actgcttcag  
1380  
acttctaate ataggcttgt aaacctacta ataggctctg cccctcttcc caatactttt  
1440  
tgtcatttag agatataaac cggggcatat aaaaatgcaa cttgtattcc tttgtatatt  
1500  
tttccctgtc tgacttataa atcttgagac ctttattgta aaagcattta tcatcagggtg  
1560  
agaaatataa ataggaactg gggtcattga gcctcaggta gggaatatat caacccgatt  
1620  
tcttctctc ttttcccttt tataggataa ataatcc  
1657

&lt;210&gt; 5186

<211> 243  
 <212> PRT  
 <213> Homo sapiens

<400> 5186  
 Met Arg Asn Ser Leu Asp Leu Val Pro Leu Arg His Met Ser Val Gln  
 1 5 10 15  
 Thr Gly Asp Tyr Lys Ser Leu Lys Ile Leu Gly Leu Leu Glu Ile Ser  
 20 25 30  
 Leu Ala Ile Tyr Ser Ser Leu Val Ser Gln Ile Ser Leu Cys His Pro  
 35 40 45  
 Gly Trp Ser Thr Val Val Arg Ser Gln Leu Thr Ala Thr Ser Ala Ser  
 50 55 60  
 Arg Phe Lys Arg Phe Ala Cys Leu Cys Leu Ser Tyr Val Pro Phe Arg  
 65 70 75 80  
 Lys Ile Leu Leu Gln Glu Lys Ile Trp Phe Gln Asp Val Ser Trp Thr  
 85 90 95  
 Gly Gly His Val Pro Arg Val Pro Arg Thr Gly Trp Val Tyr Arg Asn  
 100 105 110  
 Val Gln Arg Pro Glu Ser Val Ser Asp His Met Tyr Arg Met Ala Val  
 115 120 125  
 Met Ala Met Val Ile Lys Asp Asp Arg Leu Asn Lys Asp Xaa Glu Ala  
 130 135 140  
 Met Lys Gln Ile Thr Gln Leu Leu Pro Glu Asp Leu Arg Lys Glu Leu  
 145 150 155 160  
 Tyr Glu Leu Trp Glu Glu Tyr Glu Thr Gln Ser Ser Ala Glu Ala Lys  
 165 170 175  
 Phe Val Lys Gln Leu Asp Gln Cys Glu Met Ile Leu Gln Ala Ser Glu  
 180 185 190  
 Tyr Glu Asp Leu Glu His Lys Pro Gly Arg Leu Gln Asp Phe Tyr Asp  
 195 200 205  
 Ser Thr Ala Gly Lys Phe Asn His Pro Glu Ile Val Gln Leu Val Ser  
 210 215 220  
 Glu Leu Glu Ala Glu Arg Ser Thr Asn Ile Ala Ala Ala Ser Glu  
 225 230 235 240  
 Pro His Ser

<210> 5187  
 <211> 1712  
 <212> DNA  
 <213> Homo sapiens

<400> 5187  
 nttttgtctt gtcggctcct gtgtgtagga gggatttcgg cctgagagcg ggccgaggag  
 60  
 attggcgacg gtgtcgcccg tggtttcggt ggcggggtgcc tgggctgggtg ggaacagccg  
 120  
 cccgaaggaa gcaccatgat ttcggccgcg cagttgttgg atgagttaat gggccgggac  
 180  
 cgaaacctag ccccgacga gaagcgcagc aacgtgcggt gggaccacga gagcgtttgt  
 240  
 aaatattatc tctgtggttt ttgtcctgcg gaattgttca caaatacacg ttctgatctt  
 300

gggccgtgtg aaaaaattca tgatgaaaat ctacgaaaac agtatgagaa gagctctcgt  
360  
ttcatgaaag ttggctatga gagagatttt ttgcgatact tacagagctt acttgcagaa  
420  
gtagaacgta ggatcagacg aggccatgct cgtttggcat tatctcaaaa ccagcagctt  
480  
tctggggccg ctggcccaac aggcaaaaat gaagaaaaaa ttcaggttct aacagacaaa  
540  
attgatgtac ttctgcaaca gattgaagaa ttagggctctg aaggaaaagt agaagaagcc  
600  
caggggatga tgaaattagt tgagcaatta aaagaagaga gagaactgct aaggccaca  
660  
acgtcgacaa ttgaaagctt tgctgcacaa gaaaaacaaa tggaagtttg tgaagtatgt  
720  
ggagcctttt taatagtagg agatgcccg tcccgggtag atgaccattt gatgggaaaa  
780  
caacacatgg gctatgccaa aattaaagct actgtagaag aattaaaga aaagttaagg  
840  
aaaagaaccg aagaacctga tcgtgatgag cgtctaaaaa aggagaagca agaaagagaa  
900  
gaaagagaaa aagaacggga gagagaaagg gaagaaagag aaaggaaaag acgaaggga  
960  
gaggaagaaa gagaaaaaga aagggtctctg gacagagaaa gaagaaagag aagtcgttca  
1020  
cgaagtagac actcaagccg aacatcagac agaagatgca gcaggtctcg ggaccacaaa  
1080  
aggtcacgaa gtagagaaag aaggcggagc agaagtagag atcgacgaag aagcagaagc  
1140  
catgatcgat cagaaagaaa acacagatct cgaagtcggg atcgaagaag atcaaaaagc  
1200  
cgggatcgaa agtcatataa gcacaggagc aaaagtcggg acagagaaca agatagaaaa  
1260  
tccaaggaga aagaaaagag gggatctgat gataaaaaaa gtagtgtgaa gtccggtagt  
1320  
cgagaaaagc agagtgaaga cacaacact gaatcgaagg aaagtgtatc taagaatgag  
1380  
gtcaatggga ccagtgaaga cattaaatct gaagtgcagc gtaagtatgc acagatgaag  
1440  
atggaactaa gccgagtaag aagacatata aaagcctctt ctgaaggaaa agacagtgtg  
1500  
gtcctgcaaa acattttgag gtacattgtt ttgtctcagc tattttgtag cagactcgtg  
1560  
ccccattag tgtgcctctt tggaaattat cgccacatt tgaatatag tcgccattga  
1620  
aaagttaatt atcctttttt tagggatttt gatgtcgttt cttttttttt ttaatacaaa  
1680  
ggttgaactg tttttttttt ctttttttgg tt  
1712

&lt;210&gt; 5188

&lt;211&gt; 489

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



&lt;400&gt; 5188

```

Met Ile Ser Ala Ala Gln Leu Leu Asp Glu Leu Met Gly Arg Asp Arg
 1           5           10           15
Asn Leu Ala Pro Asp Glu Lys Arg Ser Asn Val Arg Trp Asp His Glu
      20           25           30
Ser Val Cys Lys Tyr Tyr Leu Cys Gly Phe Cys Pro Ala Glu Leu Phe
      35           40           45
Thr Asn Thr Arg Ser Asp Leu Gly Pro Cys Glu Lys Ile His Asp Glu
      50           55           60
Asn Leu Arg Lys Gln Tyr Glu Lys Ser Ser Arg Phe Met Lys Val Gly
      65           70           75           80
Tyr Glu Arg Asp Phe Leu Arg Tyr Leu Gln Ser Leu Leu Ala Glu Val
      85           90           95
Glu Arg Arg Ile Arg Arg Gly His Ala Arg Leu Ala Leu Ser Gln Asn
      100           105           110
Gln Gln Ser Ser Gly Ala Ala Gly Pro Thr Gly Lys Asn Glu Glu Lys
      115           120           125
Ile Gln Val Leu Thr Asp Lys Ile Asp Val Leu Leu Gln Gln Ile Glu
      130           135           140
Glu Leu Gly Ser Glu Gly Lys Val Glu Glu Ala Gln Gly Met Met Lys
      145           150           155           160
Leu Val Glu Gln Leu Lys Glu Glu Arg Glu Leu Leu Arg Ser Thr Thr
      165           170           175
Ser Thr Ile Glu Ser Phe Ala Ala Gln Glu Lys Gln Met Glu Val Cys
      180           185           190
Glu Val Cys Gly Ala Phe Leu Ile Val Gly Asp Ala Gln Ser Arg Val
      195           200           205
Asp Asp His Leu Met Gly Lys Gln His Met Gly Tyr Ala Lys Ile Lys
      210           215           220
Ala Thr Val Glu Glu Leu Lys Glu Lys Leu Arg Lys Arg Thr Glu Glu
      225           230           235           240
Pro Asp Arg Asp Glu Arg Leu Lys Lys Glu Lys Gln Glu Arg Glu Glu
      245           250           255
Arg Glu Lys Glu Arg Glu Arg Glu Arg Glu Glu Arg Glu Arg Lys Arg
      260           265           270
Arg Arg Glu Glu Glu Glu Arg Glu Lys Glu Arg Ala Arg Asp Arg Glu
      275           280           285
Arg Arg Lys Arg Ser Arg Ser Arg Ser Arg His Ser Ser Arg Thr Ser
      290           295           300
Asp Arg Arg Cys Ser Arg Ser Arg Asp His Lys Arg Ser Arg Ser Arg
      305           310           315           320
Glu Arg Arg Arg Ser Arg Ser Arg Asp Arg Arg Arg Ser Arg Ser His
      325           330           335
Asp Arg Ser Glu Arg Lys His Arg Ser Arg Ser Arg Asp Arg Arg Arg
      340           345           350
Ser Lys Ser Arg Asp Arg Lys Ser Tyr Lys His Arg Ser Lys Ser Arg
      355           360           365
Asp Arg Glu Gln Asp Arg Lys Ser Lys Glu Lys Glu Lys Arg Gly Ser
      370           375           380
Asp Asp Lys Lys Ser Ser Val Lys Ser Gly Ser Arg Glu Lys Gln Ser
      385           390           395           400
Glu Asp Thr Asn Thr Glu Ser Lys Glu Ser Asp Thr Lys Asn Glu Val
      405           410           415
Asn Gly Thr Ser Glu Asp Ile Lys Ser Glu Val Gln Arg Lys Tyr Ala

```

420 425 430  
 Gln Met Lys Met Glu Leu Ser Arg Val Arg Arg His Thr Lys Ala Ser  
 435 440 445  
 Ser Glu Gly Lys Asp Ser Val Val Leu Gln Asn Ile Leu Arg Tyr Ile  
 450 455 460  
 Val Leu Ser Gln Leu Phe Cys Ser Arg Leu Val Pro Pro Leu Val Cys  
 465 470 475 480  
 Leu Phe Gly Asn Tyr Arg Pro His Leu  
 485

<210> 5189  
 <211> 323  
 <212> DNA  
 <213> Homo sapiens

<400> 5189  
 acgcgtgaag ggattacagg catgagccac tgcacctggc caggagaaat tgtttttata  
 60  
 acgtatgaca aatgcttgag taattcctgg cttgaaagtg ggctcacaat aaataactgg  
 120  
 aatccaaaaa taacaaaatg tttagcaatt caggtaatgt caagcagtat tcaaacacat  
 180  
 gaagttaatc attccttaat tcctgtttat ttatatttca tttttgcttt ctttttactc  
 240  
 catgtgttat tcctacagaa gtcacaagtt aaatgttttt ggggaacttt gggggggggggg  
 300  
 gacaaacatc catgtgctgc taa  
 323

<210> 5190  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 5190  
 Met Ser His Cys Thr Trp Pro Gly Glu Ile Val Phe Ile Thr Tyr Asp  
 1 5 10 15  
 Lys Cys Leu Ser Asn Ser Trp Leu Glu Ser Gly Leu Thr Ile Asn Asn  
 20 25 30  
 Trp Asn Pro Lys Ile Thr Lys Cys Leu Ala Ile Gln Val Met Ser Ser  
 35 40 45  
 Ser Ile Gln Thr His Glu Val Asn His Ser Leu Ile Pro Val Tyr Leu  
 50 55 60  
 Tyr Phe Ile Phe Ala Phe Phe Leu Leu His Val Leu Phe Leu Gln Lys  
 65 70 75 80  
 Ser Gln Val Lys Cys Phe Trp Gly Thr Leu Gly Gly Gly Asp Lys His  
 85 90 95  
 Pro Cys Ala Ala  
 100

<210> 5191  
 <211> 1632  
 <212> DNA  
 <213> Homo sapiens

<400> 5191  
tcccgcatTT tagaggTgac tggagaactc tcacgtaggc ggccgccccca atttccccgcc  
60  
cggttcacTg gggagccccT tcccaagccc cgcaaacacc tgcacgcaaa gaggcaggcT  
120  
tccttctgac agcagataac atgtcgctg cggcgtcagc aagaggcgca tgcgccttgc  
180  
cgtgggaggc cggtTgcgca ggactggaac gcggttctc cttcttcccc gccccgcccc  
240  
gcttccggcg gaagcggcct caacaaggga aactttattg tccccgtggg gcagtcgagg  
300  
atgtcggtga attacgcggc ggggctgtcg ccgtacgcgg acaagggcaa gtgcggcctc  
360  
ccggagatct tcgaccccc ggaggagctg gagcggaagg tgtgggaact ggcgaggcTg  
420  
gtctggcagt cttccagtgt ggtgttccac acgggtgccg gcacacgac tgcctctggc  
480  
atccccgact tcagggggtcc ccacggagtc tggaccatgg aggagcgagg tctggcccc  
540  
aagtTcgaca ccaccttTga gagcgcgcg cccacgcaga cccacatggc gctggtgcag  
600  
ctggagcgcg tgggcctcct ccgcttctg gtcagccaga acgtggacgg gctccatgtg  
660  
cgctcaggct tccccaggga caaactggca gagctccacg ggaacatgtt tgtggaagaa  
720  
tgtgccaagt gtaagacgca gtacgtccga gacacagtcg tgggcaccat gggcctgaag  
780  
gccacgggcc ggctctgcac cgtggctaag gcaagggggc tgcgagcctg caggggaggc  
840  
tgcgaggccc ctgaggactc tcctcagctt cctcattgca ggggagagct gagggacacc  
900  
atcctagact gggaggactc cctgcccga cgggacctgg cactcgccga tgaggccagc  
960  
aggaacgcgc acctgtccat cacgctgggt acatcgctgc agatccggcc cagcgggaac  
1020  
ctgccgctgg ctaccaagcg ccggggaggc cgcctggTca tcgtcaacct gcagcccacc  
1080  
aagcacgacc gccatgctga cctccgcac catggctacg ttgacgaggt catgacccgg  
1140  
ctcatgaagc acctggggct ggagatcccc gcctgggacg gcccccgTgt gctgggagg  
1200  
gcgctgccac ccctgccccg cccgcccacc cccaagctgg agcccaagga ggaatctccc  
1260  
accggatca acggctctat ccccgccgc cccaagcagg agccctgcgc ccagcacaac  
1320  
ggctcagagc ccgccagccc caaacgggag cggcccacca gccctgcccc ccacagaccc  
1380  
cccaaaaggg ggctctgggt gcggttccgg gaagaagcca cccccagag gtgacagctg  
1440  
agccccTgc acaccccagc ctctgacttg ctgtgtTgtc cagaggtgag gctgggcccc  
1500  
ccctggTctc cagcttaaac aggagtgaac tccctctgtc cccagggcct cccttctggg  
1560

ccccctacag cccaccctac ccctcctcca tgggccctgc aggaggggag acccaccttg  
 1620  
 aagtggggga tc  
 1632

<210> 5192  
 <211> 377  
 <212> PRT  
 <213> Homo sapiens

<400> 5192

Met	Ser	Val	Asn	Tyr	Ala	Ala	Gly	Leu	Ser	Pro	Tyr	Ala	Asp	Lys	Gly
1			5					10					15		
Lys	Cys	Gly	Leu	Pro	Glu	Ile	Phe	Asp	Pro	Pro	Glu	Glu	Leu	Glu	Arg
			20					25					30		
Lys	Val	Trp	Glu	Leu	Ala	Arg	Leu	Val	Trp	Gln	Ser	Ser	Ser	Val	Val
			35				40					45			
Phe	His	Thr	Gly	Ala	Gly	Ile	Ser	Thr	Ala	Ser	Gly	Ile	Pro	Asp	Phe
	50					55					60				
Arg	Gly	Pro	His	Gly	Val	Trp	Thr	Met	Glu	Glu	Arg	Gly	Leu	Ala	Pro
65					70				75						80
Lys	Phe	Asp	Thr	Thr	Phe	Glu	Ser	Ala	Arg	Pro	Thr	Gln	Thr	His	Met
			85						90					95	
Ala	Leu	Val	Gln	Leu	Glu	Arg	Val	Gly	Leu	Leu	Arg	Phe	Leu	Val	Ser
			100					105					110		
Gln	Asn	Val	Asp	Gly	Leu	His	Val	Arg	Ser	Gly	Phe	Pro	Arg	Asp	Lys
	115						120					125			
Leu	Ala	Glu	Leu	His	Gly	Asn	Met	Phe	Val	Glu	Glu	Cys	Ala	Lys	Cys
	130					135					140				
Lys	Thr	Gln	Tyr	Val	Arg	Asp	Thr	Val	Val	Gly	Thr	Met	Gly	Leu	Lys
145					150					155					160
Ala	Thr	Gly	Arg	Leu	Cys	Thr	Val	Ala	Lys	Ala	Arg	Gly	Leu	Arg	Ala
			165					170						175	
Cys	Arg	Gly	Gly	Cys	Glu	Ala	Pro	Glu	Asp	Ser	Pro	Gln	Leu	Pro	His
			180					185					190		
Cys	Arg	Gly	Glu	Leu	Arg	Asp	Thr	Ile	Leu	Asp	Trp	Glu	Asp	Ser	Leu
	195					200						205			
Pro	Asp	Arg	Asp	Leu	Ala	Leu	Ala	Asp	Glu	Ala	Ser	Arg	Asn	Ala	Asp
	210					215					220				
Leu	Ser	Ile	Thr	Leu	Gly	Thr	Ser	Leu	Gln	Ile	Arg	Pro	Ser	Gly	Asn
225					230					235					240
Leu	Pro	Leu	Ala	Thr	Lys	Arg	Arg	Gly	Gly	Arg	Leu	Val	Ile	Val	Asn
			245					250						255	
Leu	Gln	Pro	Thr	Lys	His	Asp	Arg	His	Ala	Asp	Leu	Arg	Ile	His	Gly
			260					265					270		
Tyr	Val	Asp	Glu	Val	Met	Thr	Arg	Leu	Met	Lys	His	Leu	Gly	Leu	Glu
		275					280					285			
Ile	Pro	Ala	Trp	Asp	Gly	Pro	Arg	Val	Leu	Glu	Arg	Ala	Leu	Pro	Pro
	290					295					300				
Leu	Pro	Arg	Pro	Pro	Thr	Pro	Lys	Leu	Glu	Pro	Lys	Glu	Glu	Ser	Pro
305					310					315					320
Thr	Arg	Ile	Asn	Gly	Ser	Ile	Pro	Ala	Gly	Pro	Lys	Gln	Glu	Pro	Cys
			325					330						335	
Ala	Gln	His	Asn	Gly	Ser	Glu	Pro	Ala	Ser	Pro	Lys	Arg	Glu	Arg	Pro

340 345 350  
 Thr Ser Pro Ala Pro His Arg Pro Pro Lys Arg Gly Pro Leu Val Arg  
 355 360 365  
 Phe Arg Glu Glu Ala Thr Pro Gln Arg  
 370 375

<210> 5193  
 <211> 554  
 <212> DNA  
 <213> Homo sapiens

<400> 5193  
 acgcgtccct tcccgagggt ccaggcggac gtgtcccttc ccgaggttct aggcggacat  
 60  
 gtcttttgag agggcctcag gttaaccac tactgtgtct gaatctgtcc cttccccaag  
 120  
 cagcagctct gtgtcccggc atggccactg tggggcagag acacagcagg tcccacatct  
 180  
 ctgtgccttg cagaccgctc agccctgggg atgctggtct gggacggacc cctagatatc  
 240  
 acacagccga gaggtaggtc agcgctttaa gatgctgata ccgctgggtc agctcctgga  
 300  
 gcagaattct cagggtggat ttccagcaac gcctcctggg agggtcagca ggggctgggg  
 360  
 tccgtggggg ggtctccggg aggtttgct gtgtcaggcc tgtgctgctt ctggcggagg  
 420  
 cgcttgcca gcctcatcca gcctggtgtc tccggtgcca cgcgctaaca ccttcagtgc  
 480  
 acgtcggga acgcgcttg aaggccctgc cctgccccgc cccaggctcc agccagatgc  
 540  
 tgccagcacc cggg  
 554

<210> 5194  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

<400> 5194  
 Met Leu Ile Pro Leu Val Gln Leu Leu Glu Gln Asn Ser Gln Gly Gly  
 1 5 10 15  
 Phe Pro Ala Thr Pro Pro Gly Arg Val Ser Arg Gly Trp Gly Pro Trp  
 20 25 30  
 Gly Gly Leu Arg Glu Val Cys Leu Cys Gln Ala Cys Ala Ala Ser Gly  
 35 40 45  
 Gly Gly Ala Cys Pro Ala Ser Ser Ser Leu Val Ser Pro Val Pro Arg  
 50 55 60  
 Ala Asn Thr Phe Ser Ala Arg Ser Gly Thr Arg Leu Glu Gly Pro Ala  
 65 70 75 80  
 Leu Pro Arg Pro Arg Leu Gln Pro Asp Ala Ala Ser Thr Arg  
 85 90

<210> 5195  
 <211> 964

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5195

```

gggcccaggc tcacagaggt gtgaaagagg caagcacacc gcaggggcct ctgagcccag
60
ccagcctcgc ttcaatgctg ggaggtgac gtcttccttt ttgtcttctg cccaggccag
120
ctgcggggcgc tccagcggct gtgccacttc tacagcgccg tcatgcccag cgaggcccag
180
tgtgtcatct accatgagct ccagctctcc ctggcctgca aggtggccga caaggtgctg
240
gaggggcagc tcctggagac catcagccag ctctacctgt ccctgggcac cgagcgggac
300
tacaaatccg cactggacta caccaaacga agtctgggga ttttcattga cctccagaag
360
aaagagaagg aggcgcacgc ctggctgcaa gcagggaaga tctattacat cttgcggcag
420
agcgagctgg tggacctcta catccaggtg gcacagaacg tggccctgta cacaggcgac
480
cccaacctgg ggctggagct gtttgaggcg gctggagaca tcttcttcga cggggcctgg
540
gagcggggaga aagctgtgtc cttctaccgg gaccggggcc tgcccctggc agtgactacg
600
ggcaaccgca aggcggagct gcggtgtgac aacaagctgg tggcactgct ggccacgctg
660
gaggagcccc aggagggtt ggagtttgcc cacatggccc tagcactcag catcactctg
720
ggggaccggc tgaacgagcg cgtggcctac caccggctgg ccgccctgca acaccgactg
780
ggccatggcg agctggcaga gcacttctac ctcaaggccc tgctgctctg caactcgccg
840
ctggagtttg acgaggagac cctctactac gtgaaggtgt acctggtgct cggtgacatc
900
atcttctacg acctgaagga cccgtttgat gcagccgggt actaccagct ggcgctggcg
960
gccg
964

```

&lt;210&gt; 5196

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5196

```

Met Pro Ser Glu Ala Gln Cys Val Ile Tyr His Glu Leu Gln Leu Ser
1           5           10          15
Leu Ala Cys Lys Val Ala Asp Lys Val Leu Glu Gly Gln Leu Leu Glu
20          25          30
Thr Ile Ser Gln Leu Tyr Leu Ser Leu Gly Thr Glu Arg Ala Tyr Lys
35          40          45
Ser Ala Leu Asp Tyr Thr Lys Arg Ser Leu Gly Ile Phe Ile Asp Leu
50          55          60
Gln Lys Lys Glu Lys Glu Ala His Ala Trp Leu Gln Ala Gly Lys Ile

```

65		70		75		80
Tyr Tyr Ile Leu Arg Gln Ser Glu Leu Val Asp Leu Tyr Ile Gln Val						
	85		90		95	
Ala Gln Asn Val Ala Leu Tyr Thr Gly Asp Pro Asn Leu Gly Leu Glu						
	100		105		110	
Leu Phe Glu Ala Ala Gly Asp Ile Phe Phe Asp Gly Ala Trp Glu Arg						
	115		120		125	
Glu Lys Ala Val Ser Phe Tyr Arg Asp Arg Ala Leu Pro Leu Ala Val						
	130		135		140	
Thr Thr Gly Asn Arg Lys Ala Glu Leu Arg Leu Cys Asn Lys Leu Val						
	145		150		155	
Ala Leu Leu Ala Thr Leu Glu Glu Pro Gln Glu Gly Leu Glu Phe Ala						
	165		170		175	
His Met Ala Leu Ala Leu Ser Ile Thr Leu Gly Asp Arg Leu Asn Glu						
	180		185		190	
Arg Val Ala Tyr His Arg Leu Ala Ala Leu Gln His Arg Leu Gly His						
	195		200		205	
Gly Glu Leu Ala Glu His Phe Tyr Leu Lys Ala Leu Ser Leu Cys Asn						
	210		215		220	
Ser Pro Leu Glu Phe Asp Glu Glu Thr Leu Tyr Tyr Val Lys Val Tyr						
	225		230		235	
Leu Val Leu Gly Asp Ile Ile Phe Tyr Asp Leu Lys Asp Pro Phe Asp						
	245		250		255	
Ala Ala Gly Tyr Tyr Gln Leu Ala Leu Ala Ala						
	260		265			

&lt;210&gt; 5197

&lt;211&gt; 1045

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5197

natgttggtc aggttggtct caaactcctg acctcgtgat ccgcccacct cagcctcgca  
 60  
 aagtgtctggg attacaggcg tgagccacca tggttggtcag tctggtctca nactcctgtc  
 120  
 ctcattgatcc gccacacctca gcctcgcaaa gtgctgggat tacaggcatg agccaccacg  
 180  
 tccggccacc actgactttt tcattctttc tcattcttcc tgggccctcc tgctgttgta  
 240  
 ggcccccatg aagaagtga ctattctgag aaactgaagt tcagtgatga tgaagaggag  
 300  
 gaagaagtgtg tgaaggacgg caggccaaag tggaacagtt gggaccctag gaggcagcgg  
 360  
 cagttgtcaa tgagctctgc agacagtgcg gacgctaagc ggactcgaga ggaagggaag  
 420  
 gactgggctg aagcagtggg tgcgtcccggt gtggtccgaa aggcgccaga ccctcagcca  
 480  
 ccgccaggga agcttcatgg ctggggacca ggccttgact accagaagtc atcaatgggc  
 540  
 agcatgttcc ggcaacagtc catcgaggac aaggaggaca agccccacc aaggcagaag  
 600  
 ttcattcagt cagagatgtc cgaggcgggtg gagcgagccc gaaagcgccg ggaagaagag  
 660

gagcgccgag cccgggagga gaggtggcc gcctgtgctg ccaaactcaa gcagctggac  
 720  
 cagaagtgtg agcaggcacg aaaggcaggt gagggccgga agcaggcaga gaaggaagtg  
 780  
 ccctggtctc caagtgtga gaaggcatct ccccaggaaa acggccctgc tgtccacaaa  
 840  
 ggctccccag aattccctgc ccaagagacc cccaccacat tcccagaaga ggcaccaca  
 900  
 gtgtccccag cagtggcaca gagcaacagc agtgaggaag aggccagaga ggctgggtcc  
 960  
 cctgcacagg agttcaagta tcagaagtcc cttcctcccc gattccagcg ccagcagcag  
 1020  
 caacaacagc aggagcagct gtaca  
 1045

<210> 5198  
 <211> 283  
 <212> PRT  
 <213> Homo sapiens

<400> 5198

Leu	Phe	His	Ser	Phe	Ser	Phe	Phe	Leu	Gly	Pro	Pro	Ala	Val	Val	Gly
1				5					10					15	
Pro	His	Glu	Glu	Val	Asp	Tyr	Ser	Glu	Lys	Leu	Lys	Phe	Ser	Asp	Asp
			20					25					30		
Glu	Glu	Glu	Glu	Glu	Val	Val	Lys	Asp	Gly	Arg	Pro	Lys	Trp	Asn	Ser
			35				40					45			
Trp	Asp	Pro	Arg	Arg	Gln	Arg	Gln	Leu	Ser	Met	Ser	Ser	Ala	Asp	Ser
	50					55					60				
Ala	Asp	Ala	Lys	Arg	Thr	Arg	Glu	Glu	Gly	Lys	Asp	Trp	Ala	Glu	Ala
65					70					75				80	
Val	Gly	Ala	Ser	Arg	Val	Val	Arg	Lys	Ala	Pro	Asp	Pro	Gln	Pro	Pro
				85					90				95		
Pro	Arg	Lys	Leu	His	Gly	Trp	Ala	Pro	Gly	Pro	Asp	Tyr	Gln	Lys	Ser
			100					105					110		
Ser	Met	Gly	Ser	Met	Phe	Arg	Gln	Gln	Ser	Ile	Glu	Asp	Lys	Glu	Asp
	115						120					125			
Lys	Pro	Pro	Pro	Arg	Gln	Lys	Phe	Ile	Gln	Ser	Glu	Met	Ser	Glu	Ala
	130					135					140				
Val	Glu	Arg	Ala	Arg	Lys	Arg	Arg	Glu	Glu	Glu	Glu	Arg	Arg	Ala	Arg
145					150					155				160	
Glu	Glu	Arg	Leu	Ala	Ala	Cys	Ala	Ala	Lys	Leu	Lys	Gln	Leu	Asp	Gln
				165					170					175	
Lys	Cys	Lys	Gln	Ala	Arg	Lys	Ala	Gly	Glu	Ala	Arg	Lys	Gln	Ala	Glu
			180					185					190		
Lys	Glu	Val	Pro	Trp	Ser	Pro	Ser	Ala	Glu	Lys	Ala	Ser	Pro	Gln	Glu
	195					200						205			
Asn	Gly	Pro	Ala	Val	His	Lys	Gly	Ser	Pro	Glu	Phe	Pro	Ala	Gln	Glu
	210					215					220				
Thr	Pro	Thr	Thr	Phe	Pro	Glu	Glu	Ala	Pro	Thr	Val	Ser	Pro	Ala	Val
225					230					235				240	
Ala	Gln	Ser	Asn	Ser	Ser	Glu	Glu	Glu	Ala	Arg	Glu	Ala	Gly	Ser	Pro
				245					250					255	
Ala	Gln	Glu	Phe	Lys	Tyr	Gln	Lys	Ser	Leu	Pro	Pro	Arg	Phe	Gln	Arg



260  
 Gln Gln Gln Gln Gln Gln Gln Glu Gln Leu Tyr  
 275 280

<210> 5199  
 <211> 1332  
 <212> DNA  
 <213> Homo sapiens

<400> 5199  
 nnactagtgc agagtgttta gagatcactc agttttttaa gactggcctt tategtgtct  
 60  
 cagtgcagcc gaggcagagc ctttgaagga tgcgatgttg tcattcttac taatctagtc  
 120  
 cagccgctga ggtgactttc aacggcagac cgtctcctga gcgccccagg tagaatttca  
 180  
 aaagtctccg ggaccattat ggcagtcaag tggacgggtg ggcattcttc tctgtctc  
 240  
 tgcctgaatg caagtaaaga agggctgctg gcttctggag cagagggcgg agatctcacg  
 300  
 gcttgggggtg aagatggaac tccattagga cacacgcggt tccaaggggc tgatgatgtt  
 360  
 accagtgtct tattttctcc ctctgtccc accaagctct atgcctcaca tggagaaacc  
 420  
 attagtgtac tggatgtcag gtccctcaaa gattccttgg accattttca tgtgaatgaa  
 480  
 gaagaaatca attgtctttc attgaatcaa acggaaaacc tgctggcttc tgctgacgac  
 540  
 tctggggcaa tcaaaatcct agacttgga aacaagaaag ttatcagatc cttgaagaga  
 600  
 cattccaata tctgtctctc agtggctttt cgccctcaga ggccctcagag cctgggtgtca  
 660  
 tgtggactgg atatgcaggt gatgctgtgg agtcttcaaa aagcccgacc actctggatt  
 720  
 acaaatttac aggaggatga aacagaagaa atggaaggcc cacagtcacc tggtcagctc  
 780  
 ttaaaccttg ccctagccca ttctatctct gtggcttcgt gtggaatat ttttagttgt  
 840  
 ggtgcagaag atggtgaagt tcgaatcttt cgggtgatgg gagttaagtg tgaacaggaa  
 900  
 ctgggattta agggccacac ttcaggggta tcccaggtct gctttctccc agaatcctat  
 960  
 ttgctgctta ctggagggaa tgatgggaag atcacgttgt gggatgcaaa cagtgaagtt  
 1020  
 gagaaaaaac agaagagtcc caaaaacgt acccacagga agaaacctaa aagaggaact  
 1080  
 tgcaccaagc agggtggaat tactaacgct tcagtaacag atgaggaaga acatggcaac  
 1140  
 attttaccga agctaaatat tgaacatgga gaaaaagtga actggctctt ggggtacaaa  
 1200  
 ataaagggac accaaaatat attagtagct gatcaaaacta gttgtatatc tgtatacccc  
 1260  
 ttaaataaat tttaaatcca ataaaaacat ttgaagaatt gtggcaaaac tgtttttcag  
 1320

attaaaaaaaa aa  
1332

<210> 5200

<211> 358

<212> PRT

<213> Homo sapiens

<400> 5200

```

Met Ala Val Lys Trp Thr Gly Gly His Ser Ser Pro Val Leu Cys Leu
 1           5           10           15
Asn Ala Ser Lys Glu Gly Leu Leu Ala Ser Gly Ala Glu Gly Gly Asp
 20           25           30
Leu Thr Ala Trp Gly Glu Asp Gly Thr Pro Leu Gly His Thr Arg Phe
 35           40           45
Gln Gly Ala Asp Asp Val Thr Ser Val Leu Phe Ser Pro Ser Cys Pro
 50           55           60
Thr Lys Leu Tyr Ala Ser His Gly Glu Thr Ile Ser Val Leu Asp Val
 65           70           75           80
Arg Ser Leu Lys Asp Ser Leu Asp His Phe His Val Asn Glu Glu Glu
 85           90           95
Ile Asn Cys Leu Ser Leu Asn Gln Thr Glu Asn Leu Leu Ala Ser Ala
 100          105          110
Asp Asp Ser Gly Ala Ile Lys Ile Leu Asp Leu Glu Asn Lys Lys Val
 115          120          125
Ile Arg Ser Leu Lys Arg His Ser Asn Ile Cys Ser Ser Val Ala Phe
 130          135          140
Arg Pro Gln Arg Pro Gln Ser Leu Val Ser Cys Gly Leu Asp Met Gln
 145          150          155          160
Val Met Leu Trp Ser Leu Gln Lys Ala Arg Pro Leu Trp Ile Thr Asn
 165          170          175
Leu Gln Glu Asp Glu Thr Glu Glu Met Glu Gly Pro Gln Ser Pro Gly
 180          185          190
Gln Leu Leu Asn Pro Ala Leu Ala His Ser Ile Ser Val Ala Ser Cys
 195          200          205
Gly Asn Ile Phe Ser Cys Gly Ala Glu Asp Gly Lys Val Arg Ile Phe
 210          215          220
Arg Val Met Gly Val Lys Cys Glu Gln Glu Leu Gly Phe Lys Gly His
 225          230          235          240
Thr Ser Gly Val Ser Gln Val Cys Phe Leu Pro Glu Ser Tyr Leu Leu
 245          250          255
Leu Thr Gly Gly Asn Asp Gly Lys Ile Thr Leu Trp Asp Ala Asn Ser
 260          265          270
Glu Val Glu Lys Lys Gln Lys Ser Pro Thr Lys Arg Thr His Arg Lys
 275          280          285
Lys Pro Lys Arg Gly Thr Cys Thr Lys Gln Gly Gly Asn Thr Asn Ala
 290          295          300
Ser Val Thr Asp Glu Glu Glu His Gly Asn Ile Leu Pro Lys Leu Asn
 305          310          315          320
Ile Glu His Gly Glu Lys Val Asn Trp Leu Leu Gly Thr Lys Ile Lys
 325          330          335
Gly His Gln Asn Ile Leu Val Ala Asp Gln Thr Ser Cys Ile Ser Val
 340          345          350
Tyr Pro Leu Asn Glu Phe

```

355

&lt;210&gt; 5201

&lt;211&gt; 6104

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5201

nngtgccagt cgtgctttgt gaaaaataac aaagtgggtca cagaaatttg tgatctgaaa  
60  
accgggctcc cttccccaca aggtccctgg gcctccggga agacggggccc ctgtttgcc  
120  
tctcgggggt gtccctgtg ggaggggtgag tgggtgaggc cgagcctgct gcgtgtggag  
180  
cctcagagtgg gccctggctg ccactaccgc acagaggccg tgcgcgctg ggctgggctt  
240  
gggtggcctc tgtctttgca tctctgagaa ggagtcgggt ggtaacgggt ggggtcagga  
300  
agaattctgc caagtatctt tactgtcatt ctgaccatag cctctttgtt cccgcattcg  
360  
aacttttggt tcttactttg ctgctcgttt agtccctggg gatttcagat cttaggctgt  
420  
tgtttcaccg tatgggaggg ttgatgtgag cttgcttgga gacacacggg gcagcatcag  
480  
ggaccttccc agggcccagc aaattcaagt cggctctgag acctctcagc taccgcggg  
540  
acctcttgta acccatcggc atcttccagg aatccgccga gtgacttgag gaagatgcta  
600  
acgcagtaag gtctgtgctg ggccaagagc agctttgaag ctccagagaa ccaccccgtc  
660  
aggttccttg tggaagctcc cctcatccgt ggtgcagcag gctgagcact gcgcgtttgc  
720  
cacgtgctgc ccgtgacagc acattgagcc acagcatttg tagacaggac agaggggtgc  
780  
ctgccccctg cccctgctgg cacatttaac ccttgctccc tgacctcagt tctgtgcccc  
840  
accaaatgcc caggggcaag agggccacct ggaagctgcc aatcttccaa ggtgggtgtg  
900  
gggcacgggtg ggggcgggca gctcccaggc ccttgggcag gctgggggtga cggcagaggc  
960  
cacagacca gctctgacaa gtctatcat cctctgctca gcagcgacct ccctggcccc  
1020  
actttgcca gagtttgggg tccccccagg tatagctata ggcggcagtg cctgtccctg  
1080  
gcctgccttg atttcagcca caccctgca gccctgcac ccagctctgg ggtgtgcaga  
1140  
ggtttgtgtc tccagggaac acacggctgg agagaaatag ggagatgcag gaagtggggg  
1200  
cccatggggc cccaagaag cggactctcc aaggggtacc cccacccgc tacctcccc  
1260  
acggacgggc ccctcctgga gccataccc tctgtgagg ccattccagt gtcttctaga  
1320  
aagactcgt tgccaggagt gcgttctttg ttgaaaaatg ccctgaagcg aaaagatgca  
1380

ggtttatatg gaacccccac cccctcccc actctccac tctgttcgtt ctgaatgtct  
1440  
tcacgagcgt gcatcagggc gcctggctcc cccacctcag ccagtgagtc agacacgggt  
1500  
ttcgcagcca tgtttcttgg ctccgaggac acgggtggca ggcccgttgc agcccagagc  
1560  
cactggtccc tacagggcgc cgccacacca gcaggaagga ggatggctgt gtccggagcc  
1620  
tggcggggag gcggcctccc cagtatgtga gtgcagggat ctgccagaac cacctggccc  
1680  
tctgtagggc gtttaactgg aaataccctc actgccaaagt ggagactggg gcgtgtgcca  
1740  
cattgccagc caccaggaaa gcttttcttt ttcttttttt tttttttttt aaacaccaag  
1800  
agcagctata gcatggggga aagaacctaa atgtctctct gtccctgtgag ctggtgaaaa  
1860  
accagcatg agaacgcagt gtcagggtgt ggactccttc tgcccctgca gtgggtgtta  
1920  
cgggcgggtgt gccctggcga gcaagctttg attcttgggt ctttgagctc gtttcagagg  
1980  
ctgagtcctc acatcagctt tagttcttgg acttccctgt attaaagcaag aattaggaga  
2040  
atggctgtcc ctgcaggcgc ctcccgtaaa tcttgagctc tctggcgcaa tctgaaactt  
2100  
ctcttctgtt ttctttggct gtatcagccg aaccaggaga ggcctgggct gcgactaagg  
2160  
agaaagaaat cggggggtttc tgagagcaga tgggtgcctt gtgggtgcag ggcttttgtg  
2220  
gaaattgtca gcctctacgg gcagagtccg gcacccctc cccagactgc ctgctgtcaa  
2280  
accacggagc agctggagcc tgccctgtcc acggcccgtt tccaccggg catgttcgtc  
2340  
tctcatgact tcggcagagg cccctgggtg ccttcagttt cagtttctca tccaggaagg  
2400  
taaccttggg cattggcagt gggtttccct atggcttgga tccagattag aattgatctt  
2460  
tgttttcact ttccatagtt aataacatgc aaaataatga gaagaattta ttttaagggtg  
2520  
acagctatac tgggtccaaca tcgcctgctt attgtcaggg tacagaagtt taatactttc  
2580  
ttaatccagt ttttcaaact tctccctgta gaccgtaagg atgaattcca caataggatc  
2640  
ctttttaaaa tcgattttta attgttgctt agtcttgcca aggttattat gtgcatctgt  
2700  
tatttttcca atacatgtaa acagttgcag catgatgctt tgtttaatgt cctgttctta  
2760  
agctcgtag agccagtttt gaaacgtttg gtcttaccgt gaacggaggc tggcttggct  
2820  
tagccacgct gatgagtaag tgagggatgt ctccatcttg agatcaccag gcaagagagt  
2880  
tgctgcacc aggtaagagg ccaaagcccc tggggtaaca gtccccaccg ctaccggagg  
2940  
taaaacaata aaagctatgt ggttgagctc aggcctctcg tgccctgggtg cagagaaggc  
3000

agagcccaca gtaggtgcag ggtgcaaggc cctgggaggg cactggccag ggaaggtggt  
3060  
atagatggcc ctccagattgc ggggccccga gcagctcccc actctgcccg tccaccttcc  
3120  
ctggctccag cctcattctc tctttagttt aactatgcaa agagaggagg ttgagagtgt  
3180  
tctggcagct ggagctcttt tccttgctct tcctgcccct cgatggggcc acctgtgtcg  
3240  
gggcagcagt gtccatgttt atggagatca gaggtgtccc cactgtgtgg ctggactgta  
3300  
ctctgtgcc cgggtagcca ggagtctctc cctctctccc ctgcgcctg cctggctctca  
3360  
tgggctcctc tcacacaccc ctccctgtgg atcgctgcc tgggcccaga gcaggggaac  
3420  
tggagtttgt gagtgcagc agcaggttat gtgcagacag ggaaacgaga actttggacc  
3480  
tggctttctg agtccaggtg agagctgtgt ggccccccga tgccactctg cccgccggag  
3540  
ggatgtgctt gctgagcctt ttccttccac gccgcctctc actgccaggc cagcggcttc  
3600  
cgctgagact cgctggagag gcggctcccc tgtccgtcca ccgagcactc agatggatgc  
3660  
tgatcaccag ggccgagggg gctcccagaa ggaccccagg ccctggggag ggtggctgtg  
3720  
ggaggccaag tccactgccc ggaagtcttg tcagccctaa gccaggggaag cctggagcgt  
3780  
ggcctggcgg gtctgggttg acaccgtccc cactccggac tcccagcaca ggggaggaga  
3840  
cctgagcctg tatggccctg tagccctggg cagagctggg cctgtcgtgt gttcctgcct  
3900  
ggcaggtgca ggtgctggcc atctgcaggt ggaaggaggt gggaatcttg gattttttgt  
3960  
ttttttttgt cttttttttt tttgagatga agtctcgctc tgnacaccca ggctggcgtg  
4020  
cagtgggtgt atctcggtc actgcaaact ccgcttctct ggttcaagtg gttctcctgc  
4080  
cccagcctcc caagtagctg ggattacagg catgagccac cacgctcagc tgatttttgt  
4140  
atttttagta gagatggggg ttcaccatgt tggccaagct ggtctcaaac tcctgacctc  
4200  
aagtgatctg cccgcctcgg cctcccagag tgctgggatt acaggcgtga gccagtgcac  
4260  
ccggcggaat cttggaattt ttatagacag cacctcagtt tctgactcca gccgcacacc  
4320  
tcctgcctct accagcaggg gttgccgcca gaccagaycc agggccaggt ccctgcgtcc  
4380  
atcccccccg gtaggatgga cgtgagccat ccttctaggg gacttttttc agtgtgcgac  
4440  
tcgtctctgt taggtggtag gagccagttt gtgtggcctg tgcca'cgctc cacagtgcgt  
4500  
ggctgggctc tgtgtgtggc ctgtgtcccc tgctccctgca ggaccagca ggcacgtgg  
4560  
cgtgacagct gtgtccaagc cactgcccgg gcaccccatc acccaccagg gtgcacggtc  
4620

tctcctgctg ggggctttct gtcgcatgtg tgtctcctgt cgactctgca gtttgttctc  
4680  
agagcagaat gtttctgtt ctcagtgcac aaagacactg gttttcaatc ggcgtctaaa  
4740  
accacgttcc tgcctttcat tgcaacacgg tgtgttcatt tgtttaaaac agtttaatga  
4800  
gtaagtttag atgactggtc aatatcttaa aaatgtatat tagtaagaag ttcttcctgg  
4860  
aatttttctt tcgattctgg cagaataaac aggtgttttt agttttccca ctgtctgagc  
4920  
caagcaggac cctgtcccag agcaagagat gtcccttccc atctctgacc cttgcctggg  
4980  
acaagctttg atggggggcc ccagcttcaa ggctgtgggt ggaacagcac ccccaaagtc  
5040  
cagcctctcc tttcttccca tccaccagta tactgcgggg ccatttctgg tctttgtcca  
5100  
acaggaaacc catttctggt gggatatgcc ttccagtgc acagggccac tcaccccatg  
5160  
catctctgtc ctgcccgtca gtgctgggac ggacagcaag ggcaagccca gtgtctggcg  
5220  
gataggtggg tgggaacaga gaggggagaa tgccgtccta agcttctgct tggggatccc  
5280  
ccacacgacc tgggtactgc ctgggaaacc tgtcctaagt aaaactatgg acctgcctc  
5340  
gccaccggc ctgcaagcc agcatctccg tgaaggtgga tggaagcgcc tttgtcctca  
5400  
ctttgagctg caagctgggt cagcggctct gaagccctcg agtgactttc taaccaaga  
5460  
cccagcccct ggcaggagga ggggtgggtgc agggctgggt ggacaaaaag aggcctcagc  
5520  
aggcctggaa gacccttcca gtacatccca cagcgtgtcg agcagctggg agaacctgtg  
5580  
tcaagctcga gccgtcatag gtcccatga ggtgtctgaa gcccttctt ggtgatggga  
5640  
ggcagaggtg ctgacgttct ggagcatgga cgtgagtcct cagctggctc cgcgtgggcc  
5700  
cttgagggt gccaggtgtg tggtgacctt ctggatgcct ttaacttcat ggctgcgtca  
5760  
ttcctgattt agaactttta ccggagcttc atctagtgat tgcaaaactg gaccaatggg  
5820  
aggacggcgg cgcagcccgc tccctccgtg gaatggagct cagctcttcg gaggcacaa  
5880  
agcacctgtc gcctccgtgg tccccctgcc gagggagtgc ggctctgca aggttcgggg  
5940  
gtggcttctg ttgcctggag tggccggccc tgettgtgcc atgtggatgt ttgtgagcct  
6000  
cggctctaca gactgtgta ggctgcattt gtttcgtgct ggtcctgttg acttgatga  
6060  
tatccacaaa taaatatttt catggcggtg aaaaaaaaaa aaaa  
6104

&lt;210&gt; 5202

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5202

Ser Pro Gly Pro Arg Gly Leu Pro Glu Gly Pro Gln Ala Leu Gly Arg  
 1 5 10 15  
 Val Ala Val Gly Gly Gln Val His Cys Pro Glu Val Leu Ser Ala Leu  
 20 25 30  
 Ser Gln Gly Ser Leu Glu Arg Gly Leu Ala Gly Leu Gly Gly His Arg  
 35 40 45  
 Pro His Ser Gly Leu Pro Ala Gln Gly Arg Arg Pro Glu Pro Val Trp  
 50 55 60  
 Pro Cys Ser Pro Gly Gln Ser Trp Ala Cys Arg Val Phe Leu Pro Gly  
 65 70 75 80  
 Arg Cys Arg Cys Trp Pro Ser Ala Gly Gly Arg Arg Trp Glu Ser Trp  
 85 90 95  
 Ile Phe Cys Phe Phe Leu Ser Phe Phe Phe Leu Arg  
 100 105

&lt;210&gt; 5203

&lt;211&gt; 1863

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5203

gaaaatttgg tagaaaaaga gataagtggg tctaaagtca cttgtagaga tctttagtaa  
 60  
 tattttaagg cttacatcaa aatctatcaa ggagaagaac ttccacatcc aaagtccatg  
 120  
 cttcaggcaa cagctgaagc taataatctt gctgcagtag caggagcaag agatacctat  
 180  
 tgtaaaagta tggaacaggt atgtggaggg gacaagcctt acattgcacc ttcagatctg  
 240  
 gagcgaaaac acttggatct caaggaagtg gcgataaaac aatttcgttc agtaaaaaag  
 300  
 atgggtggag atgagttctg ccgtcggtat caggaccagc ttgaagctga aattgaagaa  
 360  
 acctatgcaa attttataaa gcacaatgat ggcaaaaata tcttctatgc tgctcgatcc  
 420  
 ccagccacac tgtttgcggt catgtttgct atgtatataa tctcaggact gactggcttc  
 480  
 attggcctaa actctatagc tgtcttgtgt aaccttgtca tgggggttagc actgatattt  
 540  
 ctttgtactt gggcatatgt taaatactct ggggagttca gagaaattgg aacagtgatt  
 600  
 gatcagattg ctgaaacact atgggaacag gtattgaagc ccttgggtga taatttgatg  
 660  
 gaggaaaaca taaggcagtc tgtaacaaac tctatcaaag caggcctgac tgaccagggtg  
 720  
 tctcatcatg ccagattaaa gacagactga cagttcatct cctcacggac tccactctct  
 780  
 ttttttttca tgcttgctgt acaatgagaa ctcaaataaa aataaaccaa agtttacaat  
 840  
 caactgtaga agtagtttag tgtaactggc ttcacagatg gctgccacag agtgtgaaga  
 900

ttgtttgtta gttttaagca ttcttttaat ggctcctaag acatgcagat ggactgagga  
 960  
 gcattgggta atcatgcacc tttgtgcat gtttaactct tttatttttt tttacttaat  
 1020  
 ctaatggttag tgaatttgct ttatgtaaaa ggatatttca gggaaatatt ttcagaaatc  
 1080  
 tatttagagt ctctttaaca cagtgtccca ttgaaatttt aatttttaga gaatttatga  
 1140  
 atcactgttt caagaaccag attggaaaga caatgaagcc tttattgagc cactacatta  
 1200  
 aaagtatata ttgctttact gccttcaata ccagtattac atcaatgcat gtatcagaaa  
 1260  
 cttcacagaa attacatggc aactcttgta gctaagaaag taattctgag gtgtacattt  
 1320  
 gtcttgccct tttaaattta taaacttgcc ctaaaaggag atgcatatct gggaaactga  
 1380  
 actgtctttt tgcagtttag ccttcagtga tataaaatat gccattaatt ttattgggga  
 1440  
 agaaattcca tccaaaaatg ttgcctacag ctatgagtta agagtgtctg tacagtgtgt  
 1500  
 agctttttatt ttctaaaatc acagataggg catgtatatg acttataaat atataaatac  
 1560  
 gattttgtat taaaagtttt gtagtttatg gcaaaatctg gtcctgtggt aggctaaata  
 1620  
 agtacagtcc ctgtgaaagg aatgtttgtg gctcatgtca gtgtgtgaat gcatagacaa  
 1680  
 tttgaagttt ttgatattat tgtgatattt atcttgagca ctgcaatctc accccccccc  
 1740  
 cccaccaag ggaattcaat gggaaatgtt attgtgaact tgcctctgtg tgcattttta  
 1800  
 agttatttcc tgtaatttat tttcagtaca taattaaaaa tttgttgat atataaaaaa  
 1860  
 aaa  
 1863

&lt;210&gt; 5204

&lt;211&gt; 249

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5204

Glu	Asn	Leu	Val	Glu	Lys	Glu	Ile	Ser	Gly	Ser	Lys	Val	Thr	Cys	Arg
1				5					10					15	
Asp	Leu	Val	Glu	Tyr	Phe	Lys	Ala	Tyr	Ile	Lys	Ile	Tyr	Gln	Gly	Glu
		20						25					30		
Glu	Leu	Pro	His	Pro	Lys	Ser	Met	Leu	Gln	Ala	Thr	Ala	Glu	Ala	Asn
		35					40					45			
Asn	Leu	Ala	Ala	Val	Ala	Gly	Ala	Arg	Asp	Thr	Tyr	Cys	Lys	Ser	Met
		50				55				60					
Glu	Gln	Val	Cys	Gly	Gly	Asp	Lys	Pro	Tyr	Ile	Ala	Pro	Ser	Asp	Leu
65				70					75					80	
Glu	Arg	Lys	His	Leu	Asp	Leu	Lys	Glu	Val	Ala	Ile	Lys	Gln	Phe	Arg
			85					90					95		
Ser	Val	Lys	Lys	Met	Gly	Gly	Asp	Glu	Phe	Cys	Arg	Arg	Tyr	Gln	Asp





gaagacacca gcaccagggg cctgaaccaa gactccacag atagcaaaac gcttcaagaa  
 900  
 caaatggatg agctgttaca gcaatgcttc ttacatgcct tgaagtgccg agtcaaaaaag  
 960  
 gctgacctcc ctttactcac cagcactttc cttggcagcc acatgttctc ctgctgcccc  
 1020  
 gaangacgac aactggacat aaagaagtca agctacaaaa agctctctaa gttcctgcag  
 1080  
 caaatgcagc aggagcagat tatacagggtg aaggagctga gcaaaggggt ggagagcatt  
 1140  
 gtggctgtgg actggaaaca cccgaggatt acatctttcg tcatacccgga gccctccccg  
 1200  
 acctcccaga ctatccagga gggtagcagg gaacagccct atcacctcc agatataaaa  
 1260  
 cccctctact gtgtcccagc cagcatgacc ctgctcttcc aggagtctgg ccacaagaag  
 1320  
 gggagctttc tggagggcag tgaggtccga acgatcgtca ttaactacgc caagaaaaat  
 1380  
 gacctgggtg atgcagacaa caaaaatctt gtgagattgg atcccatcct atgtgactgc  
 1440  
 atcttagaga aaaatgaaca gcatacagtc atgaagcttc catgggacag tcttctgacc  
 1500  
 aggtgttttg aaaaattaca gcctgcctat caagtgaccc ttcccggaca agagcccatt  
 1560  
 gtgaagaaag ggagaatctg tccaattgac atcaccttag cacaaagagc gtctaataaa  
 1620  
 aaggtgaccg tgggccgga cttggaggcc tatggtctgg acccatactc agtggtgcc  
 1680  
 atccttcagc agcgtgcca ggctagcacc accgtcaatc ctgcccctgg ggccaaggac  
 1740  
 agccttcagg tgcagatcca gggaaaccag gtccaccacc tgggtgggt attgcttgaa  
 1800  
 gagtatcagc tccctcgaaa acacatccaa ggtctagaaa aggccctcaa acctggcaag  
 1860  
 aagaagtgac agactctttt gtctcacgtg gtggatccgg tggaaatcca agctctgggc  
 1920  
 tggtaatttt tatgagcatt ttcagctttt gcaaatacaa aatataattc tttacaaaaa  
 1980  
 taaattttta ttctgatcta aaaaaaaaaa a  
 2011

&lt;210&gt; 5206

&lt;211&gt; 248

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5206

His	Ser	Leu	Ala	Ser	Val	Leu	Ser	Ser	Pro	Gly	His	Pro	Ser	Arg	His
1				5					10					15	
Val	Ala	Lys	Ala	Phe	Arg	Val	Lys	Ser	Asn	Thr	Ala	Ile	Lys	Gly	Ser
			20					25					30		
Asp	Arg	Arg	Lys	Leu	Arg	Ala	Asp	Val	Thr	Thr	Ala	Phe	Pro	Thr	Leu
		35				40					45				
Gly	Thr	Asp	Gln	Val	Ser	Glu	Leu	Val	Pro	Gly	Lys	Glu	Glu	Leu	Asn

50 55 60  
 Ile Val Lys Leu Tyr Ala His Lys Gly Asp Ala Val Thr Val Tyr Val  
 65 70 75 80  
 Ser Gly Gly Asn Pro Ile Leu Phe Glu Leu Glu Lys Asn Leu Tyr Pro  
 85 90 95  
 Thr Val Tyr Thr Leu Trp Ser Tyr Pro Asp Leu Leu Pro Thr Phe Thr  
 100 105 110  
 Thr Trp Pro Leu Val Leu Glu Lys Leu Val Gly Gly Ala Asp Leu Met  
 115 120 125  
 Leu Pro Gly Leu Val Met Pro Pro Ala Gly Leu Pro Gln Val Gln Lys  
 130 135 140  
 Gly Asp Leu Cys Ala Ile Ser Leu Val Gly Asn Arg Ala Pro Val Ala  
 145 150 155 160  
 Ile Gly Val Ala Ala Met Ser Thr Ala Glu Met Leu Thr Ser Gly Leu  
 165 170 175  
 Lys Gly Arg Gly Phe Ser Val Leu His Thr Tyr Gln Asp His Leu Trp  
 180 185 190  
 Arg Ser Gly Asn Lys Ser Ser Pro Pro Ser Ile Ala Pro Leu Ala Leu  
 195 200 205  
 Asp Ser Ala Asp Leu Ser Glu Glu Lys Gly Ser Val Gln Met Asp Ser  
 210 215 220  
 Thr Leu Gln Gly Asp Met Arg His Met Thr Leu Glu Gly Glu Glu Glu  
 225 230 235 240  
 Asn Gly Glu Val His Gln Gly Thr  
 245

&lt;210&gt; 5207

&lt;211&gt; 594

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5207

ncggccggcc agggcagggg gcacctagga cggccccggt ccaggtggag gccgcagagg  
 60  
 gccccaggga agcagaggca gcaatggttg gtcctgacgg tggctgagcc cccagcccct  
 120  
 ggaatatgca gcccggggga gcccagaca gcggcaagga cgaggtggcg gaggggggcg  
 180  
 ggaggcatgg tctccacctt ccgggtggcc gtgctggggg cgcgaggtgt gggcaagagt  
 240  
 gccatcgtgc gccagttctt gtacaacgag ttcagcgagg tctgcgtccc caccaccgcc  
 300  
 cgccgccttt acctgcctgc tgctgcatg aacggccacg tgcacgacct ccagatcctc  
 360  
 gactttccac ccacgcgcg cttccctctc aatacgctcc aggagtgggc agacacctgc  
 420  
 tgcaggggac tccggagtgt ccacgcctac atcctggtct acgacatctg ctgctttgac  
 480  
 agctttgagt acgtcaagac catccgccag cagatcctgg agacgagggg gatcgggaac  
 540  
 tcagagacgc ccacatcatc cgtggggaac aagcgggacc tgcagcgcgg acgc  
 594

&lt;210&gt; 5208

<211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 5208  
 Met Val Ser Thr Tyr Arg Val Ala Val Leu Gly Ala Arg Gly Val Gly  
 1 5 10 15  
 Lys Ser Ala Ile Val Arg Gln Phe Leu Tyr Asn Glu Phe Ser Glu Val  
 20 25 30  
 Cys Val Pro Thr Thr Ala Arg Arg Leu Tyr Leu Pro Ala Val Val Met  
 35 40 45  
 Asn Gly His Val His Asp Leu Gln Ile Leu Asp Phe Pro Pro Ile Ser  
 50 55 60  
 Ala Phe Pro Val Asn Thr Leu Gln Glu Trp Ala Asp Thr Cys Cys Arg  
 65 70 75 80  
 Gly Leu Arg Ser Val His Ala Tyr Ile Leu Val Tyr Asp Ile Cys Cys  
 85 90 95  
 Phe Asp Ser Phe Glu Tyr Val Lys Thr Ile Arg Gln Gln Ile Leu Glu  
 100 105 110  
 Thr Arg Val Ile Gly Thr Ser Glu Thr Pro Ile Ile Ile Val Gly Asn  
 115 120 125  
 Lys Arg Asp Leu Gln Arg Gly Arg  
 130 135

<210> 5209  
 <211> 1592  
 <212> DNA  
 <213> Homo sapiens

<400> 5209  
 atcctgtggg gcctgaagct tgtcatcttc ctggccggct tcgtggccct gatgaggtcg  
 60  
 gtgacctgacc cttccacccg ggccctgcta ctctggcct tgctgatcct ctacgccctg  
 120  
 ctgagccggc tcaactggctc ccgagcctct ggggcccaac tcgaggccaa ggtgcgaggg  
 180  
 ctggaacgcc aggtggagga gctgcgctgg cgccagaggc gagcggccaa gggggcccgc  
 240  
 agtgtggagg aggagtgagc cggatgcccc acacaccgcc agtgtcatac caaagagctg  
 300  
 agctgcttcg gggccatgca gccctcctgc cagccccctg cccttttctt gccctgtctc  
 360  
 tgaaccttca gaacattgat ccttgccgca gcccactag ccaagagaaa cagagaaaga  
 420  
 ccattccccc tgctgtcct tgcgccctg tctctgagg ttctctgtct ggggttggtg  
 480  
 ctcttaacce tttctctgct ccagcctgc ctcaccaggg aaggttgag gggcctccct  
 540  
 ctggcttctg catctgcgcc agcaaacatc actgccgttg gtctctcatg acttaactgg  
 600  
 cttccctctg ctgctgcctt ggcttctcc taatgctcgt gctctcctgt ccttctgaag  
 660  
 ttgctccttg gccaaatctc cagctccctt cttgttttcc tcctcctct accctgtact  
 720

cccaccaaac catggctcct taaggcacgc tcctgtcctc ctcattgccc agcagtaggg  
 780  
 aggggcaggg gtaaggggac ctgaggataa aggggtggga aacagggtcc cctgaggcct  
 840  
 gtgggggctg caggggagga ggatgtacct tgtgtctctt tcaagtgcct taatccgagc  
 900  
 cagcagggcc ttctgcttgc ctgctgccat actgtatgta ggaaagtgtt ctgtggctgc  
 960  
 tttgtgtcaa gaaaagagca gtcactetca gaatcttgat tccccatcag ccaaagcaaa  
 1020  
 agatggctgc tgctttgtag gcatgtgcct gcaagtggga ccttgctggg cattatatgc  
 1080  
 cctgtggggg tttcagagac cctgaaagag gagggaggac ccgcctcctt gtctgcacaa  
 1140  
 ctgcatgcac ttctctcccc atcgctccac aacctgaaac cgagaaggag ttgctgacca  
 1200  
 gtgcccaccc cggcagcccg ggaggaacac aggcagctcc tttcccttca cgtggctctgc  
 1260  
 agagagcagg gtgagctgcc agctgcccct ctccaccagg gtaccctgtc ttggtgggta  
 1320  
 ggggccactt ttcctttgag gctctagtgg aggtggatgt ccttctctgc caggcttggc  
 1380  
 acatgatgtg aagaataaat gcccaattct tactgttcag gtttgatgtg gaatcacagc  
 1440  
 tgcagtgata tatatTTTTT atcagtgcct ggttggtttt aaataaagtg cacgctatTT  
 1500  
 tattatcttg ttctgaataa aatgtattta ctccaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1560  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1592

<210> 5210  
 <211> 85  
 <212> PRT  
 <213> Homo sapiens

<400> 5210  
 Ile Leu Trp Gly Leu Lys Leu Val Ile Phe Leu Ala Gly Phe Val Ala  
 1 5 10 15  
 Leu Met Arg Ser Val Pro Asp Pro Ser Thr Arg Ala Leu Leu Leu Leu  
 20 25 30  
 Ala Leu Leu Ile Leu Tyr Ala Leu Leu Ser Arg Leu Thr Gly Ser Arg  
 35 40 45  
 Ala Ser Gly Ala Gln Leu Glu Ala Lys Val Arg Gly Leu Glu Arg Gln  
 50 55 60  
 Val Glu Glu Leu Arg Trp Arg Gln Arg Arg Ala Ala Lys Gly Ala Arg  
 65 70 75 80  
 Ser Val Glu Glu Glu  
 85

<210> 5211  
 <211> 602  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 5211

gcagttcagt ctttgattgg ttgctgagag gcggggctac tcgactgctc tggaggttagc  
60  
ggccgcggtg aggagagcca tgggacgggc agtcaagggt ttacagctct ttaaaacact  
120  
gcacaggacc agacaacaag tttttaaaaa tgatgccaga gcattagaag cagccagaat  
180  
aaagataaat gaagaattca aaaataataa aagtgaaact tcttctaaga aaatagaaga  
240  
gctaataaaa ataggttctg atgttgaatt attactcaga acatctgtta tacaaggtat  
300  
tcacacagac cacaatacac tgaactgggt ccctaggaaa gaccttcttg tagaaaatgt  
360  
gccatattgt gatgcaccaa ctcagaagca atgagtttcc tagaatacaa caagtctttg  
420  
tactttttta ctttaaaatc tacaactctg gcaaaagtcc tggaaatgca gacattttcc  
480  
ctgaactggc atattgaaaa tgaatgaatt acagaatagc ttcattttta aatttcattg  
540  
taaaagggtca ttactgagaa ctaaagaaca taattaagta tttctaaagg aaattagata  
600  
ag  
602

&lt;210&gt; 5212

&lt;211&gt; 104

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5212

Met	Gly	Arg	Ala	Val	Lys	Val	Leu	Gln	Leu	Phe	Lys	Thr	Leu	His	Arg
1				5					10					15	
Thr	Arg	Gln	Gln	Val	Phe	Lys	Asn	Asp	Ala	Arg	Ala	Leu	Glu	Ala	Ala
		20						25					30		
Arg	Ile	Lys	Ile	Asn	Glu	Glu	Phe	Lys	Asn	Asn	Lys	Ser	Glu	Thr	Ser
		35					40					45			
Ser	Lys	Lys	Ile	Glu	Glu	Leu	Met	Lys	Ile	Gly	Ser	Asp	Val	Glu	Leu
	50					55					60				
Leu	Leu	Arg	Thr	Ser	Val	Ile	Gln	Gly	Ile	His	Thr	Asp	His	Asn	Thr
65					70				75					80	
Leu	Lys	Leu	Val	Pro	Arg	Lys	Asp	Leu	Leu	Val	Glu	Asn	Val	Pro	Tyr
				85					90					95	
Cys	Asp	Ala	Pro	Thr	Gln	Lys	Gln								
				100											

&lt;210&gt; 5213

&lt;211&gt; 4387

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5213

nnccgcggag ctacggtttc ctccagaggt ctccgccct ctgcccctat attcccagaa  
60

cccgagtctg atccgggcct tgccgggcac cctggaaagg cgggggtgat agtacagatg  
120  
gagacgcaac tgcagagcat tttcgaagag gtggtgaaaa cggaagttat agaagaggct  
180  
tttcctggca tgtttatgga tactcctgaa gatgagaaaa caaaactaat tagctgtttg  
240  
ggggccttca gacagttttg ggggtggactt tctcaggagt ctcatgaaca gtgtatccag  
300  
tggattgtta agtttattca tggtcagcat agtcctaaaa gaatttcttt tctttatgac  
360  
tgcttagcaa tggcagttga gactggtctc cttccacca ggctggtttg tgaatccctg  
420  
ataaactctg acactcttga gtgggaaaga acacagcttt gggccttaac atttaaactg  
480  
gttcggaaaa taattggggg agtggattac aagggtgttc gagatctctt aaaagtgatt  
540  
ttggagaaga ttttgacaat tcctaataca gtgagctctg ctgttgtaca gcagcttctg  
600  
gcagcaagag aggttatagc atatatcttg gaaagaaatg cctgcttatt accagcctat  
660  
tttgagtcga ctgagatcag gaaactgtat cctgaaggca aacttccaca ctggttactt  
720  
ggaaacctag tatcagactt tgtggatacc ttcaggccca cagcaaggat aaactccatt  
780  
tgtggtcgct gtagtcttct gccagttgta aataattcgg gtgccatttg taattcatgg  
840  
aaactggatc ctgctactct tcgttttctt ttgaaaggcc ttttgccata tgataaggat  
900  
ctgtttgaac cacagactgc tttgttgaga tatgtattgg agcagcctta ttccagggat  
960  
atggtctgca atatgctagg tttaaataag cagcacaagc agcgtgccc tgtgctggag  
1020  
gaccagttgg tggatctggt tgtttatgcc atggagcgat ctgagaccga ggagaagttt  
1080  
gacgatgggg gaacaagcca actcctgtgg cagcatctct caagtcagct cattttcttt  
1140  
gtgcttttcc agtttgcaag ttttccacat atggtgcttt ctcttcatca gaagttagca  
1200  
gggcgaggac tgattaaagg cagagatcat cttatgtggg ttctcctgca attcatttct  
1260  
ggaagtatc agaaaaatgc actagctgat tttctccctg tgatgaagct cttcgacttg  
1320  
ctatacccag aaaaagaata tatcccagtt cctgatatta acaaacccca gtcaaccat  
1380  
gcctttgcaa tgacctgtat ttggattcat ctcaatagaa aagctcaaaa tgacaactcc  
1440  
aagctacaga ttccaatacc tcattcccta agacttcacc atgagttcct gcagcagagt  
1500  
ctaagacata aaagtttaca gatgaatgac tataagattg ctctatttg tgatgcatac  
1560  
tctacaaatt cagaatgtgt tacattaccc atgggagctc tggtagaaac tatttatgga  
1620  
aatggaatta tgagactacc tctccctgga acaaactgta tggcttcagc atctattacc  
1680

cccttaccta tgaacctcct ggattcactg acagttcatg ccaaaatgag cettattcac  
1740  
agcattgcaa ccagggatgat aaaacttgct catgcaaagt ccagtgtggc cttggctcca  
1800  
gccctagtgg aaacttacag tcgtttattg gtctatatgg aaatagagtc tttgggcatc  
1860  
aaaggattta tcagtcagct tttgccaaact gtgttcaaact cacatgcatg ggggatctta  
1920  
cacacactcc ttgagatggt tagctaccgg atgcatcata ttcagcctca ttacagagtt  
1980  
cagctcctga gtcactctca tactttggct gcagttgcac aaacaaacca gaaccagctc  
2040  
catctttgtg tcgagagcac tgctctcagg cttataacag cattaggtag ctgagaggtg  
2100  
caaccgcagt ttacacgctt ccttagtgat cccaaaacag tgctctcagc agaatctgaa  
2160  
gaactgaacc gagccttgat attgaccttg gctagagcaa ctcatgtaac agattttttt  
2220  
acaggctctg attcaattca gggaacttgg tgtaaagaca tacttcagac catcatgagt  
2280  
ttcactcctc ataattgggc ttcacacacc ctgagctggt ttccaggccc actacaggca  
2340  
ttcttcaaac aaaataatgt gcctcaggaa agccgtttta atctgaaaaa aaatgtggag  
2400  
gaggagtata ggaagtggaa gtcaatgagc aacgaaaacg acattattac ccacttctct  
2460  
atgcaggggt cccctcctct ctttctttgt cttctctgga aaatgctctt ggaaacagat  
2520  
catattaatc agattggcta tagagtatta gagagaattg gagccagggc cttggtagcc  
2580  
catgtgagga catttgaga tttcctggta tatgagtttt ctacatcagc aggggggtcag  
2640  
caactcaata aatgcattga aattcttaat gacatgggtat ggaagtataa cattgttaca  
2700  
ctggacagat taattctctg cctggccatg cgtagtcacg aaggaaatga agcccaggtt  
2760  
tgttatttca taattcagtt gctgttactc aaaccaaacg attttagaaa tcgagtaagt  
2820  
gactttgtga aggaaaattc cccagagcac tggttacaga atgactggca caccaagcac  
2880  
atgaattatc acaagaaata tccagagaag ttgtattttg agggcctcgc ggaacagggt  
2940  
gatcctcctg tacagatcca gtctccctat ctgcccctct attttgggaa tgtgtgtctt  
3000  
cgattccttc cagtatttga tatagtaatc cacagatttt tagagttgct tccggtatcc  
3060  
aaatcactgg agactctact ggatcatcta ggaggcttat ataaatttca tgatcgtcca  
3120  
gtgacttata tgtataacac tctgcactat tatgaaatgc acctgagaga ccgcgcattt  
3180  
ctcaaacgaa aactcgtcca tgcgatcatt ggctctctga aggataatcg accgcagggc  
3240  
tggtgtctaa gtgacactta cctgaaatgc gctatgaatg cacgagagga aaatccttgg  
3300



gttccagatg acacctacta ttgcagattg attggcagac tagtcgatac gatggctggc  
 3360  
 aaatctcctg gtccctttcc aaactgtgac tggagattca atgagtttcc caaccagct  
 3420  
 gcccattgctc tccatgttac ttgtgtggag ctcattggcct tggcagtttc aggcaaagaa  
 3480  
 gttgggaatg cccttctaaa tgttgtccta aaaagtcagc ctttagtgcc aagagagaac  
 3540  
 attacagcat ggatgaatgc aattggtttg atcatcactg ccctaccaga gccatattgg  
 3600  
 attgttcttc atgatcgaat tgtgagtgtc atcagcagcc ccagcttgac gtctgaaaca  
 3660  
 gagtgggttg gctatccatt ccgctctttt gatttcactg cctgtcatca gtctactct  
 3720  
 gagatgagtt gtagctatac gttagctctt gcacatgctg tgtggcacca ttctagcatc  
 3780  
 ggacaacttt ctctcattcc aaagtttctt actgaagtac ttcttctat agtgaagacc  
 3840  
 gaattccagt tgctttatgt ataccatctt gttggaccat ttttaciaag atttcagcaa  
 3900  
 gagagaactc gttgtatgat agagattggg gtggcgtttt atgacatgct gctgaatgtt  
 3960  
 gaccagtgtg gcacccattt aaattacatg gatcccatct gtgacttctt ctatcacatg  
 4020  
 aagtatatgt ttactggtga cagcgtgaaa gagcaagtag agaagattat ctgtaactta  
 4080  
 aaaccagctt taaaacttcg tcttcgattc atcacacaca ttagcaagat ggagccagct  
 4140  
 gcagtgcctc cacaagccat gaacagtggg tctccagcac ctcagtctaa tcaggttgac  
 4200  
 actctcacct gacagatgat gtaattcttc aatttttata atcttaaaat ttttaaattt  
 4260  
 tatatttgta aatacagtac acattttatt tcttgattt tgagagacat tgttaatttt  
 4320  
 gggggaattg gcattgcgaa agacttgaaa actaatgagt aaagtctgct gaatgaataa  
 4380  
 accaaaa  
 4387

<210> 5214

<211> 1364

<212> PRT

<213> Homo sapiens

<400> 5214

Met	Glu	Thr	Gln	Leu	Gln	Ser	Ile	Phe	Glu	Glu	Val	Val	Lys	Thr	Glu
1				5					10					15	
Val	Ile	Glu	Glu	Ala	Phe	Pro	Gly	Met	Phe	Met	Asp	Thr	Pro	Glu	Asp
		20					25					30			
Glu	Lys	Thr	Lys	Leu	Ile	Ser	Cys	Leu	Gly	Ala	Phe	Arg	Gln	Phe	Trp
		35				40					45				
Gly	Gly	Leu	Ser	Gln	Glu	Ser	His	Glu	Gln	Cys	Ile	Gln	Trp	Ile	Val
	50				55			60							
Lys	Phe	Ile	His	Gly	Gln	His	Ser	Pro	Lys	Arg	Ile	Ser	Phe	Leu	Tyr

65					70					75					80
Asp	Cys	Leu	Ala	Met	Ala	Val	Glu	Thr	Gly	Leu	Leu	Pro	Pro	Arg	Leu
				85					90					95	
Val	Cys	Glu	Ser	Leu	Ile	Asn	Ser	Asp	Thr	Leu	Glu	Trp	Glu	Arg	Thr
				100					105					110	
Gln	Leu	Trp	Ala	Leu	Thr	Phe	Lys	Leu	Val	Arg	Lys	Ile	Ile	Gly	Gly
				115					120					125	
Val	Asp	Tyr	Lys	Gly	Val	Arg	Asp	Leu	Leu	Lys	Val	Ile	Leu	Glu	Lys
				130					135					140	
Ile	Leu	Thr	Ile	Pro	Asn	Thr	Val	Ser	Ser	Ala	Val	Val	Gln	Gln	Leu
145					150					155					160
Leu	Ala	Ala	Arg	Glu	Val	Ile	Ala	Tyr	Ile	Leu	Glu	Arg	Asn	Ala	Cys
				165						170				175	
Leu	Leu	Pro	Ala	Tyr	Phe	Ala	Val	Thr	Glu	Ile	Arg	Lys	Leu	Tyr	Pro
				180					185					190	
Glu	Gly	Lys	Leu	Pro	His	Trp	Leu	Leu	Gly	Asn	Leu	Val	Ser	Asp	Phe
				195					200					205	
Val	Asp	Thr	Phe	Arg	Pro	Thr	Ala	Arg	Ile	Asn	Ser	Ile	Cys	Gly	Arg
				210										220	
Cys	Ser	Leu	Leu	Pro	Val	Val	Asn	Asn	Ser	Gly	Ala	Ile	Cys	Asn	Ser
225					230					235					240
Trp	Lys	Leu	Asp	Pro	Ala	Thr	Leu	Arg	Phe	Pro	Leu	Lys	Gly	Leu	Leu
				245					250					255	
Pro	Tyr	Asp	Lys	Asp	Leu	Phe	Glu	Pro	Gln	Thr	Ala	Leu	Leu	Arg	Tyr
				260					265					270	
Val	Leu	Glu	Gln	Pro	Tyr	Ser	Arg	Asp	Met	Val	Cys	Asn	Met	Leu	Gly
				275					280					285	
Leu	Asn	Lys	Gln	His	Lys	Gln	Arg	Cys	Pro	Val	Leu	Glu	Asp	Gln	Leu
				290					295					300	
Val	Asp	Leu	Val	Val	Tyr	Ala	Met	Glu	Arg	Ser	Glu	Thr	Glu	Glu	Lys
305					310					315					320
Phe	Asp	Asp	Gly	Gly	Thr	Ser	Gln	Leu	Leu	Trp	Gln	His	Leu	Ser	Ser
				325					330					335	
Gln	Leu	Ile	Phe	Phe	Val	Leu	Phe	Gln	Phe	Ala	Ser	Phe	Pro	His	Met
				340					345					350	
Val	Leu	Ser	Leu	His	Gln	Lys	Leu	Ala	Gly	Arg	Gly	Leu	Ile	Lys	Gly
				355					360					365	
Arg	Asp	His	Leu	Met	Trp	Val	Leu	Leu	Gln	Phe	Ile	Ser	Gly	Ser	Ile
				370					375					380	
Gln	Lys	Asn	Ala	Leu	Ala	Asp	Phe	Leu	Pro	Val	Met	Lys	Leu	Phe	Asp
385					390					395					400
Leu	Leu	Tyr	Pro	Glu	Lys	Glu	Tyr	Ile	Pro	Val	Pro	Asp	Ile	Asn	Lys
				405					410					415	
Pro	Gln	Ser	Thr	His	Ala	Phe	Ala	Met	Thr	Cys	Ile	Trp	Ile	His	Leu
				420					425					430	
Asn	Arg	Lys	Ala	Gln	Asn	Asp	Asn	Ser	Lys	Leu	Gln	Ile	Pro	Ile	Pro
				435					440					445	
His	Ser	Leu	Arg	Leu	His	His	Glu	Phe	Leu	Gln	Gln	Ser	Leu	Arg	His
				450					455					460	
Lys	Ser	Leu	Gln	Met	Asn	Asp	Tyr	Lys	Ile	Ala	Leu	Leu	Cys	Asn	Ala
465					470					475					480
Tyr	Ser	Thr	Asn	Ser	Glu	Cys	Val	Thr	Leu	Pro	Met	Gly	Ala	Leu	Val
				485					490					495	
Glu	Thr	Ile	Tyr	Gly	Asn	Gly	Ile	Met	Arg	Leu	Pro	Leu	Pro	Gly	Thr

	500		505		510
Asn Cys Met Ala Ser Ala Ser Ile Thr Pro Leu Pro Met Asn Leu Leu					
515		520		525	
Asp Ser Leu Thr Val His Ala Lys Met Ser Leu Ile His Ser Ile Ala					
530		535		540	
Thr Arg Val Ile Lys Leu Ala His Ala Lys Ser Ser Val Ala Leu Ala					
545		550		555	560
Pro Ala Leu Val Glu Thr Tyr Ser Arg Leu Leu Val Tyr Met Glu Ile					
	565		570		575
Glu Ser Leu Gly Ile Lys Gly Phe Ile Ser Gln Leu Leu Pro Thr Val					
	580		585		590
Phe Lys Ser His Ala Trp Gly Ile Leu His Thr Leu Leu Glu Met Phe					
	595		600		605
Ser Tyr Arg Met His His Ile Gln Pro His Tyr Arg Val Gln Leu Leu					
	610		615		620
Ser His Leu His Thr Leu Ala Ala Val Ala Gln Thr Asn Gln Asn Gln					
625		630		635	640
Leu His Leu Cys Val Glu Ser Thr Ala Leu Arg Leu Ile Thr Ala Leu					
	645		650		655
Gly Ser Ser Glu Val Gln Pro Gln Phe Thr Arg Phe Leu Ser Asp Pro					
	660		665		670
Lys Thr Val Leu Ser Ala Glu Ser Glu Glu Leu Asn Arg Ala Leu Ile					
	675		680		685
Leu Thr Leu Ala Arg Ala Thr His Val Thr Asp Phe Phe Thr Gly Ser					
	690		695		700
Asp Ser Ile Gln Gly Thr Trp Cys Lys Asp Ile Leu Gln Thr Ile Met					
705		710		715	720
Ser Phe Thr Pro His Asn Trp Ala Ser His Thr Leu Ser Cys Phe Pro					
	725		730		735
Gly Pro Leu Gln Ala Phe Phe Lys Gln Asn Asn Val Pro Gln Glu Ser					
	740		745		750
Arg Phe Asn Leu Lys Lys Asn Val Glu Glu Glu Tyr Arg Lys Trp Lys					
	755		760		765
Ser Met Ser Asn Glu Asn Asp Ile Ile Thr His Phe Ser Met Gln Gly					
	770		775		780
Ser Pro Pro Leu Phe Leu Cys Leu Leu Trp Lys Met Leu Leu Glu Thr					
785		790		795	800
Asp His Ile Asn Gln Ile Gly Tyr Arg Val Leu Glu Arg Ile Gly Ala					
	805		810		815
Arg Ala Leu Val Ala His Val Arg Thr Phe Ala Asp Phe Leu Val Tyr					
	820		825		830
Glu Phe Ser Thr Ser Ala Gly Gly Gln Gln Leu Asn Lys Cys Ile Glu					
	835		840		845
Ile Leu Asn Asp Met Val Trp Lys Tyr Asn Ile Val Thr Leu Asp Arg					
	850		855		860
Leu Ile Leu Cys Leu Ala Met Arg Ser His Glu Gly Asn Glu Ala Gln					
865		870		875	880
Val Cys Tyr Phe Ile Ile Gln Leu Leu Leu Lys Pro Asn Asp Phe					
	885		890		895
Arg Asn Arg Val Ser Asp Phe Val Lys Glu Asn Ser Pro Glu His Trp					
	900		905		910
Leu Gln Asn Asp Trp His Thr Lys His Met Asn Tyr His Lys Lys Tyr					
	915		920		925
Pro Glu Lys Leu Tyr Phe Glu Gly Leu Ala Glu Gln Val Asp Pro Pro					

930	935	940
Val Gln Ile Gln Ser Pro Tyr Leu Pro Ile Tyr Phe Gly Asn Val Cys		
945	950	955
Leu Arg Phe Leu Pro Val Phe Asp Ile Val Ile His Arg Phe Leu Glu		960
	965	970
Leu Leu Pro Val Ser Lys Ser Leu Glu Thr Leu Leu Asp His Leu Gly		975
	980	985
Gly Leu Tyr Lys Phe His Asp Arg Pro Val Thr Tyr Leu Tyr Asn Thr		990
	995	1000
Leu His Tyr Tyr Glu Met His Leu Arg Asp Arg Ala Phe Leu Lys Arg		1005
	1010	1015
Lys Leu Val His Ala Ile Ile Gly Ser Leu Lys Asp Asn Arg Pro Gln		1020
1025	1030	1035
Gly Trp Cys Leu Ser Asp Thr Tyr Leu Lys Cys Ala Met Asn Ala Arg		1040
	1045	1050
Glu Glu Asn Pro Trp Val Pro Asp Asp Thr Tyr Tyr Cys Arg Leu Ile		1055
	1060	1065
Gly Arg Leu Val Asp Thr Met Ala Gly Lys Ser Pro Gly Pro Phe Pro		1070
	1075	1080
Asn Cys Asp Trp Arg Phe Asn Glu Phe Pro Asn Pro Ala Ala His Ala		1085
	1090	1095
Leu His Val Thr Cys Val Glu Leu Met Ala Leu Ala Val Ser Gly Lys		1100
1105	1110	1115
Glu Val Gly Asn Ala Leu Leu Asn Val Val Leu Lys Ser Gln Pro Leu		1120
	1125	1130
Val Pro Arg Glu Asn Ile Thr Ala Trp Met Asn Ala Ile Gly Leu Ile		1135
	1140	1145
Ile Thr Ala Leu Pro Glu Pro Tyr Trp Ile Val Leu His Asp Arg Ile		1150
	1155	1160
Val Ser Val Ile Ser Ser Pro Ser Leu Thr Ser Glu Thr Glu Trp Val		1165
	1170	1175
Gly Tyr Pro Phe Arg Leu Phe Asp Phe Thr Ala Cys His Gln Ser Tyr		1180
1185	1190	1195
Ser Glu Met Ser Cys Ser Tyr Thr Leu Ala Leu Ala His Ala Val Trp		1200
	1205	1210
His His Ser Ser Ile Gly Gln Leu Ser Leu Ile Pro Lys Phe Leu Thr		1215
	1220	1225
Glu Val Leu Leu Pro Ile Val Lys Thr Glu Phe Gln Leu Leu Tyr Val		1230
	1235	1240
Tyr His Leu Val Gly Pro Phe Leu Gln Arg Phe Gln Gln Glu Arg Thr		1245
	1250	1255
Arg Cys Met Ile Glu Ile Gly Val Ala Phe Tyr Asp Met Leu Leu Asn		1260
1265	1270	1275
Val Asp Gln Cys Ser Thr His Leu Asn Tyr Met Asp Pro Ile Cys Asp		1280
	1285	1290
Phe Leu Tyr His Met Lys Tyr Met Phe Thr Gly Asp Ser Val Lys Glu		1295
	1300	1305
Gln Val Glu Lys Ile Ile Cys Asn Leu Lys Pro Ala Leu Lys Leu Arg		1310
	1315	1320
Leu Arg Phe Ile Thr His Ile Ser Lys Met Glu Pro Ala Ala Val Pro		1325
	1330	1335
Pro Gln Ala Met Asn Ser Gly Ser Pro Ala Pro Gln Ser Asn Gln Val		1340
1345	1350	1355
Asp Thr Leu Thr		1360

<210> 5215  
 <211> 548  
 <212> DNA  
 <213> Homo sapiens

<400> 5215  
 nacgcgtgat ccatgggagg aggtaacatg tcaggatgag cggaagtttg gaagaagttg  
 60  
 gtcccaggcc tgaaagatca ctgtgagggt tcaggacttc agtggaggag ggactgtaga  
 120  
 ggtttttagaa gcagcaagag aactagaatg agaaggactt ggagatgtga ctgcattgtc  
 180  
 gctgtctcgc gagaaaactt taacacgtga ggagttgcct ctgaaggggtg agcagggggag  
 240  
 ttgcttcagt tgcgctctag tcccagtga gattctgtga acctgggggt aatgaggaca  
 300  
 aagaacttgg aacagcccgg aacctcggtt gatgaagccg cggccgggnt tgagaggacc  
 360  
 gactgcagtt ctgaaagacg ttctgctgtg ggttcaatgc tatcagacag catcacgccc  
 420  
 cacagagaaa tctttcatga aaggaagagt ccatcgctgt ggccaacttt tttgtggta  
 480  
 tagtttaaga agttgcccc gctccagca gccaccgcc caacgagtca gccgccgtcc  
 540  
 acattgag  
 548

<210> 5216  
 <211> 83  
 <212> PRT  
 <213> Homo sapiens

<400> 5216  
 Ala Gly Glu Leu Leu Gln Leu Arg Ser Ser Pro Ser Glu Asp Ser Val  
 1 5 10 15  
 Asn Leu Gly Val Met Arg Thr Lys Asn Leu Glu Gln Pro Gly Thr Ser  
 20 25 30  
 Val Asp Glu Ala Ala Ala Gly Xaa Glu Arg Thr Asp Cys Ser Ser Glu  
 35 40 45  
 Arg Arg Ser Ala Val Gly Ser Met Leu Ser Asp Ser Ile Thr Pro His  
 50 55 60  
 Arg Glu Ile Phe His Glu Arg Lys Ser Pro Ser Leu Trp Pro Thr Phe  
 65 70 75 80  
 Leu Trp Ser

<210> 5217  
 <211> 4189  
 <212> DNA  
 <213> Homo sapiens

<400> 5217

atcagtaaaa tggggagaaa ttccaagcac acttctcaga gcagagcaga agaggttgac  
60  
tatggagagg agaatgaaga tgggaccaca ggtgagcccc gggtgcccac ttactgcagc  
120  
cccactggc gcaggctgcc ccaggccctg tgcagacaca ccaggccctc agccgcagcc  
180  
catggacctg cgggtgccag cggcccccag tggagcccc accagagccc acattgctgg  
240  
ccctgcagcg tccccagcgc ctgcaccacc acctcttctt agcaggcctg cagcagcagc  
300  
gctcgggtga gcccatgagg ctctccatgg acacgccgat gcccgagttg caggtgggac  
360  
cccaggaaca acagctgcgg cagcttctcc acaaggacaa gagcaagcga agtgctgtag  
420  
ccagcagcgt ggtcaagcag aagctagcgg aggtgattct gaaaaaacag caggcggccc  
480  
tagaaagaac agtccatccc aacagccccg gcattcccta cagaaccctg gagcccctgg  
540  
agacggaagg agccaccgc tccatgctca gcagcttttt gcctcctgtt cccagcctgc  
600  
ccagtgacct cccagagcac ttccctctgc gcaagacagt ctctgagccc aacctgaagc  
660  
tgcgctataa gccaagaag tccctggagc ggaggaagaa tccactgctc cgaaaggaga  
720  
gtgcgcccc cagcctccgg cggcgccccg cagagaccct cggagactcc tccccaaagta  
780  
gtagcagcac gcccgcatca ggatgcagct cccccaatga cagcgagcac ggccccaatc  
840  
ccatcctggg ctcgaggcg ctcttgggccc agcggctgcg gctgcaggag acttctgtgg  
900  
ccccgttcgc cttgcccaca gtgtccttgc tgcccgaat cactctgggg ctgcccggcc  
960  
ctgccagggc tgacagtgc cgcaggacct atccgactct gggccctcgg gggccaatcc  
1020  
tggggagccc ccacactccc ctcttctctg cccatggctt ggagcccgag gctgggggca  
1080  
ccttgccctc tcgectgcag ccattctctc tcttggaacc ctcaggctct catgccccgc  
1140  
tgctgactgt gcccgggctt gggcccttgc ccttccactt tgcccagtcc ttaatgacca  
1200  
ccgagcggct ctctgggtca ggccctccact ggccactgag ccggactcgc tcagagcccc  
1260  
tgccccccag tgccaccgct ccccaccgc cgggccccat gcagccccgc ctggagcagc  
1320  
tcaaaactca cgtccaggtg atcaagaggt cagccaagcc gagtgagaag ccccggctgc  
1380  
ggcagatacc ctcggtgaa gacctggaga cagatggcgg gggaccgggc caggtgggtg  
1440  
acgatggcct ggagcacagg gagctgggccc atgggcagcc tgaggccaga ggccccgctc  
1500  
ctctccagca gcacctcag gtgttgctct gggaacagca gcgactggct gggcggtctc  
1560  
cccggggcag caccggggac actgtgctgc ttctctggc ccagggtggg caccggcctc  
1620

tgtccccggc tcagtcttcc ccagccgcac ctgcctcact gtcagcccca gagcctgcca  
1680  
gccnaggccc gagtcctctc cagctcagag acccctgcca ggaccctgcc cttcaccaca  
1740  
gggctgatct atgactcggg catgctgaag caccagtgtc cctgcggtga caacagcagg  
1800  
cacccgagc acgccggccg catccagagc atctgggtccc ggctgcagga gcgggggctc  
1860  
cggagccagt gtgagtgtct ccgaggccgg aaggcctccc tggaaagagct gcagtgcgtc  
1920  
cactctgagc ggcacgtgct cctctacggc accaaccgc tcagccgctt caaactggac  
1980  
aacgggaagc tggcagggct cctggcacag cggatgtttg tgatgctgcc ctgtgggtgg  
2040  
gttgggggtg acactgacac catctggaat gagcttcatt cctccaatgc agcccgctgg  
2100  
gccgctggca gtgtcactga cctcgcttc aaagtggctt ctctgagct aaagaatggt  
2160  
ttcgctgtgg tgcggccccc aggacacat gcagatcatt caacagccat gggcttctgc  
2220  
ttcttcaact cagtggccat cgcctgccgg cagctgcaac agcagagcaa ggccagcaag  
2280  
atcctcattg tagactggga cgtgcacat ggcaacgcca cccagcaaac cttctacaa  
2340  
gacccagtg tgctctacat ctccctgcat cgccatgacg acggcaactt cttccgggg  
2400  
agtggggctg tggatgaggt aggggctggc agcggtgagg gcttcaatgt caatgtggc  
2460  
tgggctggag gtctggacct ccccatgggg gatcctgagt acctggctgc ttccaggata  
2520  
gtcgtgatgc ccatcgcccg agagtctctt ccagacctag tcctggtgtc tgctggattt  
2580  
gatgctgctg agggtcacct ggccccactg ggtggctacc atgtttctgc caaatgtttt  
2640  
ggatacatga cgcagcaact gatgaacctg gcaggaggcg cagtgggtgct ggccttggag  
2700  
ggtggccatg acctcacagc catctgtgac gcctctgagg cctgtgtggc tgctcttctg  
2760  
ggtaacaggg tggatccctt ttcagaagaa ggctggaaac agaaacccaa cctcaatgcc  
2820  
atccgctctc tggaggccgt gatccgggtg cacagtaaat actggggctg catgcagcg  
2880  
ctggcctcct gtccagactc ctgggtgcct agagtgccag gggctgacaa agaagaagt  
2940  
gaggcagtga ccgactggc gtccctctct gtgggcatcc tggctgaaga taggcctcg  
3000  
gagcagctgg tggaggagga agaacctatg aatctctaag gctctggaac catctgccc  
3060  
cccaccatgc ccttgggacc tggttctctt ctaaccctg gcaatagccc ccattcctgg  
3120  
gtcttttagag atcctgtggg caagtagttg gaaccagaga acagcctgcc tgctttgaca  
3180  
gttatcccag ggagcgtgag aaaatccctg ggtctagaat gggaaactgga gaggaccctg  
3240

agaggagacg ggctggggcg cgacccccac agggctctcg agaacagatt ctcccccca  
 3300  
 gtatggggccc tggctgtggc cccatttct caggactgca cagaggagga ctggctccgg  
 3360  
 ctccgtcggg ctcaccctta accactattc ctggctctgc aaaccccaga ctttgacac  
 3420  
 agccccaggc tccacacaga aatgtgaact tggcctcaga caggctggcc cttcctaggc  
 3480  
 tctaggggct aggggggagt ggggagccaa gaggtcccat attcctgagt gcaggggtag  
 3540  
 tccctctcac ctgcttctc agacgactct ggaagcttcc ctctaccacc gggcactgag  
 3600  
 acgaagctcc ctgacagccg agactggcag cctccatct ggtccgtacc ctcgccagag  
 3660  
 gccccctac atcaacctcc tggcgatgcc ctgggtggagc agatgggtgc tctgggagtc  
 3720  
 ctgtgcttcc tgatccaatg gtgccaaacc cttcatctcc cccagaagcg cagcatatccc  
 3780  
 ctggggacccc tgggccactg cccactcggg gagccttctc tgtttctggg gcctccccca  
 3840  
 ccatagctct gattcccacc ccacatagga atagcctgac tgagggggaa ggggtgggag  
 3900  
 agaagataca gacatggagg aggggaggct gctctggcaa agtcttcaag gcttttgggg  
 3960  
 gtccaggcct ggggtcaaga aggaaaatgt gtgtgagcat gtgtgtgagt gaggcgtgtg  
 4020  
 tgtgagcgtg tgtgtgagtg aggcgtgtgt gtgtgtcttt cctaggaccc accataccct  
 4080  
 gtgtatgtat gcatgttttt gtaaaaagga agaaaatgga aaaaaatctg aacaataaat  
 4140  
 gttttatttg ctttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 4189

<210> 5218

<211> 541

<212> PRT

<213> Homo sapiens

<400> 5218

Met	Ala	Gly	Asp	Arg	Ala	Arg	Trp	Trp	Thr	Met	Ala	Trp	Ser	Thr	Gly
1				5					10					15	
Ser	Trp	Ala	Met	Gly	Ser	Leu	Arg	Pro	Glu	Ala	Pro	Leu	Leu	Ser	Ser
		20					25					30			
Ser	Thr	Leu	Arg	Cys	Cys	Ser	Gly	Asn	Ser	Ser	Asp	Trp	Leu	Gly	Gly
		35				40					45				
Ser	Pro	Gly	Ala	Ala	Pro	Gly	Thr	Leu	Cys	Cys	Phe	Leu	Trp	Pro	Arg
	50					55					60				
Val	Gly	Thr	Gly	Leu	Cys	Pro	Gly	Leu	Ser	Leu	Pro	Gln	Pro	His	Leu
65				70					75					80	
Pro	His	Cys	Gln	Pro	Gln	Ser	Leu	Pro	Ala	Xaa	Ala	Arg	Val	Leu	Ser
			85					90						95	
Ser	Ser	Glu	Thr	Pro	Ala	Arg	Thr	Leu	Pro	Phe	Thr	Thr	Gly	Leu	Ile
		100						105					110		
Tyr	Asp	Ser	Val	Met	Leu	Lys	His	Gln	Cys	Ser	Cys	Gly	Asp	Asn	Ser



115	120	125
Arg His Pro Glu His Ala Gly Arg Ile Gln Ser Ile Trp Ser Arg Leu		
130	135	140
Gln Glu Arg Gly Leu Arg Ser Gln Cys Glu Cys Leu Arg Gly Arg Lys		
145	150	155
Ala Ser Leu Glu Glu Leu Gln Ser Val His Ser Glu Arg His Val Leu		
165	170	175
Leu Tyr Gly Thr Asn Pro Leu Ser Arg Leu Lys Leu Asp Asn Gly Lys		
180	185	190
Leu Ala Gly Leu Leu Ala Gln Arg Met Phe Val Met Leu Pro Cys Gly		
195	200	205
Gly Val Gly Val Asp Thr Asp Thr Ile Trp Asn Glu Leu His Ser Ser		
210	215	220
Asn Ala Ala Arg Trp Ala Ala Gly Ser Val Thr Asp Leu Ala Phe Lys		
225	230	235
Val Ala Ser Arg Glu Leu Lys Asn Gly Phe Ala Val Val Arg Pro Pro		
245	250	255
Gly His His Ala Asp His Ser Thr Ala Met Gly Phe Cys Phe Phe Asn		
260	265	270
Ser Val Ala Ile Ala Cys Arg Gln Leu Gln Gln Gln Ser Lys Ala Ser		
275	280	285
Lys Ile Leu Ile Val Asp Trp Asp Val His His Gly Asn Ala Thr Gln		
290	295	300
Gln Thr Phe Tyr Gln Asp Pro Ser Val Leu Tyr Ile Ser Leu His Arg		
305	310	315
His Asp Asp Gly Asn Phe Phe Pro Gly Ser Gly Ala Val Asp Glu Val		
325	330	335
Gly Ala Gly Ser Gly Glu Gly Phe Asn Val Asn Val Ala Trp Ala Gly		
340	345	350
Gly Leu Asp Pro Pro Met Gly Asp Pro Glu Tyr Leu Ala Ala Phe Arg		
355	360	365
Ile Val Val Met Pro Ile Ala Arg Glu Phe Ser Pro Asp Leu Val Leu		
370	375	380
Val Ser Ala Gly Phe Asp Ala Ala Glu Gly His Pro Ala Pro Leu Gly		
385	390	395
Gly Tyr His Val Ser Ala Lys Cys Phe Gly Tyr Met Thr Gln Gln Leu		
405	410	415
Met Asn Leu Ala Gly Gly Ala Val Val Leu Ala Leu Glu Gly Gly His		
420	425	430
Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ala Ala Leu		
435	440	445
Leu Gly Asn Arg Val Asp Pro Leu Ser Glu Glu Gly Trp Lys Gln Lys		
450	455	460
Pro Asn Leu Asn Ala Ile Arg Ser Leu Glu Ala Val Ile Arg Val His		
465	470	475
Ser Lys Tyr Trp Gly Cys Met Gln Arg Leu Ala Ser Cys Pro Asp Ser		
485	490	495
Trp Val Pro Arg Val Pro Gly Ala Asp Lys Glu Glu Val Glu Ala Val		
500	505	510
Thr Ala Leu Ala Ser Leu Ser Val Gly Ile Leu Ala Glu Asp Arg Pro		
515	520	525
Ser Glu Gln Leu Val Glu Glu Glu Glu Pro Met Asn Leu		
530	535	540

<210> 5219  
<211> 1212  
<212> DNA  
<213> Homo sapiens

<400> 5219  
nnagagactt tcgcttccgg ctgccgcacg cttcgctggt gcaggtaagc tccgcacact  
60  
ctcggccggt cccgagtcgg actccctcaa gggtgacgag agctctgccc ttttaaccgga  
120  
aacgtctccc tgctcacccc acccccgcgc agacgcagtg ctgagcacac agctaccgga  
180  
caaagagtga cgcccgagc tggagttagt gcggctacgg agccgatctt ggcgggcact  
240  
gggagtcccc cgggcgtgcc accggagaaa ctggaaggag ccggttcgag ctcagcccct  
300  
gagcgtaact gtgtgggctc ctcgctgcca gaggcctcac cgcctgcccc tgagccttcc  
360  
agtcccaacg ccgcggtccc tgaagccatc cctacgcccc gagctgcggc ctccgcgggc  
420  
ctggagctgc ctctcgggccc cgaccccggt agcgtagcgc ctcaggccga agctgaagcg  
480  
cgctccacac caggcccccgc cggctctaga ctcgggtccc agacgttccg ccagcgtttc  
540  
cggcagttcc gctaccagga tgcggcgggt ccccgaggag ctttccggca gctgcgggag  
600  
ctgtcccgcc agtggctgag gcctgacatc cgcaccaagg agcagatcgt ggagatgctg  
660  
gtgcaagagc agctgctcgc catcctgccc gagggcggtc gggcccggcg gatccgcccg  
720  
cgcacggatg tgcgcatcac tggctgagcg gtggagctgc gggcgccag ggccgggccc  
780  
tctgtgcgga ctggggccat gatcgggccc gggggcctga gcctgggacc ccaccccggtg  
840  
ttaatgaaaa atgagttttg gcagcgccgt tggctctggtg tgtctctttc attcgttctt  
900  
attgggttta ttttaccag cctgtttcct accgcctttc tggctggtgg cgaaacgaag  
960  
ttgggagtcc gtaacaataa ggccttcggt ggctatagtg ggatctttag atgttgactg  
1020  
aacctaggtt atccctctac cacacatggg aagtttttca cctgggctcc caaggaccca  
1080  
cttgggtttc ttacacgcaa aatagctggc tctattaaat gtcacttaa ctggctacct  
1140  
ctataccaat atgggcacca acttgcacct gccctttggg tacaggcttc ccacaatgtc  
1200  
cnagttactg gg  
1212

<210> 5220  
<211> 179  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 5220

```

Met Ala Ala Thr Glu Pro Ile Leu Ala Ala Thr Gly Ser Pro Ala Ala
 1           5           10           15
Val Pro Pro Glu Lys Leu Glu Gly Ala Gly Ser Ser Ser Ala Pro Glu
 20           25           30
Arg Asn Cys Val Gly Ser Ser Leu Pro Glu Ala Ser Pro Pro Ala Pro
 35           40           45
Glu Pro Ser Ser Pro Asn Ala Ala Val Pro Glu Ala Ile Pro Thr Pro
 50           55           60
Arg Ala Ala Ala Ser Ala Ala Leu Glu Leu Pro Leu Gly Pro Ala Pro
 65           70           75           80
Val Ser Val Ala Pro Gln Ala Glu Ala Glu Ala Arg Ser Thr Pro Gly
 85           90           95
Pro Ala Gly Ser Arg Leu Gly Pro Glu Thr Phe Arg Gln Arg Phe Arg
 100          105          110
Gln Phe Arg Tyr Gln Asp Ala Ala Gly Pro Arg Glu Ala Phe Arg Gln
 115          120          125
Leu Arg Glu Leu Ser Arg Gln Trp Leu Arg Pro Asp Ile Arg Thr Lys
 130          135          140
Glu Gln Ile Val Glu Met Leu Val Gln Glu Gln Leu Leu Ala Ile Leu
 145          150          155          160
Pro Glu Ala Ala Arg Ala Arg Arg Ile Arg Arg Arg Thr Asp Val Arg
 165          170          175
Ile Thr Gly

```

&lt;210&gt; 5221

&lt;211&gt; 497

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5221

```

ntccggaccc tccaagtgga gaccctgggtg gagccccag aaccatgtgc cgagcccgt
60
gcttttggag acacgcttca catacactac acgggaagct tggtagatgg acgtattatt
120
gacacctccc tgaccagaga ccctctgggt atagaacttg gccaaaagca ggtgattcca
180
ggtctggagc agagtcttct cgacatgtgt gtgggagaga agcgaagggc aatcattcct
240
tctcacttgg cctatggaaa acggggattt ccaccatctg tcccagggaac taaagacaac
300
ctgatgaggc cacctggcat gacctccagc agccagtaac ttgttaggga agagacctgc
360
ttgggccaca tgggtctgct gcctgtgrca ccacctttcc cagaacactg gacttctttc
420
ctgccctttt ctacaactct acgctgtgtc agctgtacag ccacccccca ccccttcctt
480
tcagccacca tctgtcc
497

```

&lt;210&gt; 5222

&lt;211&gt; 112

&lt;212&gt; PRT

<213> Homo sapiens

<400> 5222

```

Xaa Arg Thr Leu Gln Val Glu Thr Leu Val Glu Pro Pro Glu Pro Cys
 1           5           10           15
Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu His Ile His Tyr Thr Gly
      20           25           30
Ser Leu Val Asp Gly Arg Ile Ile Asp Thr Ser Leu Thr Arg Asp Pro
      35           40           45
Leu Val Ile Glu Leu Gly Gln Lys Gln Val Ile Pro Gly Leu Glu Gln
      50           55           60
Ser Leu Leu Asp Met Cys Val Gly Glu Lys Arg Arg Ala Ile Ile Pro
65           70           75           80
Ser His Leu Ala Tyr Gly Lys Arg Gly Phe Pro Pro Ser Val Pro Gly
      85           90           95
Thr Lys Asp Asn Leu Met Arg Pro Pro Gly Met Thr Ser Ser Ser Gln
      100           105           110

```

<210> 5223

<211> 637

<212> DNA

<213> Homo sapiens

<400> 5223

```

ngcaccattt tcgacaatga agccaaagac gtggagagag aagtttgctt tattgatatt
60
gcctgcgatg aaattccaga gcgctactac aaagaatctg aggatcctaa gcacttcaag
120
tcagagaaga caggacgggg acagttgagg gaaggctgga gagatagtca tcagcctatc
180
atgtgctect acaagctggt gactgtgaag tttgaggtct gggggcttca gaccagagtg
240
gaacaatttg tacacaaggt ggtccgagac attctgctga ttggacatag acaggctttt
300
gcatgggttg atgagtggta tgatatgaca atggatgatg ttcgggaata cgagaaaaac
360
atgcatgaac aaaccaacat aaaagtttgc aatcagcatt cctcccctgt ggatgacata
420
gagagtcatg cccaaacaag tacatgacaa tggatgaagt ccgagaattt gaacgagcca
480
ctcaggaagc caccaacaag aaaatcggca ttttcccacc tgcaatttct atctccagca
540
tccccctgct gccttcttcc gtccgcagtg cgccttctag tgctccatcc acccctctct
600
ccacagacgc acccgattt ctgtccgttc ccaaaga
637

```

<210> 5224

<211> 148

<212> PRT

<213> Homo sapiens

<400> 5224

```

Xaa Thr Ile Phe Asp Asn Glu Ala Lys Asp Val Glu Arg Glu Val Cys

```

```

      1           5           10           15
Phe Ile Asp Ile Ala Cys Asp Glu Ile Pro Glu Arg Tyr Tyr Lys Glu
      20           25           30
Ser Glu Asp Pro Lys His Phe Lys Ser Glu Lys Thr Gly Arg Gly Gln
      35           40           45
Leu Arg Glu Gly Trp Arg Asp Ser His Gln Pro Ile Met Cys Ser Tyr
      50           55           60
Lys Leu Val Thr Val Lys Phe Glu Val Trp Gly Leu Gln Thr Arg Val
      65           70           75           80
Glu Gln Phe Val His Lys Val Val Arg Asp Ile Leu Leu Ile Gly His
      85           90           95
Arg Gln Ala Phe Ala Trp Val Asp Glu Trp Tyr Asp Met Thr Met Asp
      100          105          110
Asp Val Arg Glu Tyr Glu Lys Asn Met His Glu Gln Thr Asn Ile Lys
      115          120          125
Val Cys Asn Gln His Ser Ser Pro Val Asp Asp Ile Glu Ser His Ala
      130          135          140
Gln Thr Ser Thr
145

```

&lt;210&gt; 5225

&lt;211&gt; 394

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5225

```

acgcgtgaag gggctggggt gggcaatcag ggaggacttc ctggaggcgg cagctgagggc
60
tggggcagag aaggacccag ggcactggaa ggggaaggag aaacgtaagc agagtcttgg
120
caggcctggt cagacggaca tgcccaaggg aacagatagt accaggacag gggaccctgg
180
tctgaagggg cgatagcctg gccccagtg gaaacagccc ctcccaaccc tggcggcaga
240
cagggagggt cggcaggtat gtgagatgca aacctggggg actgcccac cccagtgga
300
tgtgaggaca cgggtgggtc aggaagtgga gtgacaaatg ggctgtgctg gacttgcttt
360
ccccacatga aggttaggaa ccaagagaac ggcc
394

```

&lt;210&gt; 5226

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5226

```

Met Trp Gly Lys Gln Val Gln His Ser Pro Phe Val Thr Pro Leu Pro
      1           5           10           15
Glu Pro Thr Val Ser Ser His Pro Leu Gly Asp Gly Gln Ser Pro Arg
      20           25           30
Phe Ala Ser His Ile Pro Ala Asp Pro Pro Cys Leu Pro Pro Gly Leu
      35           40           45
Gly Gly Ala Val Ser Thr Gly Gly Gln Ala Ile Ala Pro Ser Asp Gln

```

50                      55                      60  
 Gly Pro Leu Ser Trp Tyr Tyr Leu Phe Pro Trp Ala Cys Pro Ser Asp  
 65                      70                      75                      80  
 Gln Ala Cys Gln Asp Ser Ala Tyr Val Ser Pro Ser Pro Ser Ser Ala  
                     85                      90                      95  
 Leu Gly Pro Ser Leu Pro Gln Pro Gln Leu Pro Pro Pro Gly Ser Pro  
                     100                      105                      110  
 Pro

<210> 5227

<211> 2366

<212> DNA

<213> Homo sapiens

<400> 5227

tcgcgaacag gccacccagg cacacgtgga tgttcttttag ctccttggcg ccaccagatg  
 60  
 cagctgccag tgagatgttc tgcagctgtt tgatcctctc gctgaagtcg gacacccact  
 120  
 ggatgacggt catgccggca ggcaccgtgt agaaggccag tgtggtaacc ttacctgtct  
 180  
 acctgaactt caccctgca gacctcatct tcaccgtgga cttcgaaatt gctacaaagg  
 240  
 aggatcctcg cagcttctac gagcgggggtg tcgcagtctt gtgcacagag taaacttttc  
 300  
 tagctgcccc tttctgtaat agtgaaagtt ggtatttaac atttattcat ttttaaaata  
 360  
 tttggaaggt ctgagcttgt gaaaagaaag tgggttggtct gaggttgagg gaagctgaat  
 420  
 ggaatctgac ggttgggagt ggtggaaatt ggaaggatac caggaggtat ttgggaaaac  
 480  
 cttacggagc tgccctcgtc tactggagca gaagaaatag acctaatttt cctcaaggga  
 540  
 attatggaga atcctattgt aaaatcactt gctaaggctc gtgagaggct agaagattcc  
 600  
 aaactagaag ctgtcagtga caataacttg gaattagtca atgaaattct tgaagacatc  
 660  
 actcctctaa taaatgtgga tgaaaatgtg gcagaattgg ttggtatact caaagaacct  
 720  
 cacttccagt cactgttggga ggcccatgat attgtggcat caaagtgtta tgattcacct  
 780  
 ccatcaagcc cagaaatgaa taattcttct atcaataatc agttattacc agtagatgcc  
 840  
 attcgtattc ttggtattca caaaagagct ggggaaccac tgggtgtgac atttaggggt  
 900  
 gaaaataatg atctggtaat tgcccgaatc ctccatgggg gaatgataga tcgacaagg  
 960  
 ctacttcaty tgggagatat aattaaagaa gtcaatggcc atgaggttgg aaataatcca  
 1020  
 aaggaattac aagaattact gaaaaatatt agtgggaagt tcaccctaaa aatcttacca  
 1080  
 agttatagag ataccattac tcctcaacag gtatttgtga agtgtcattt tgattataat  
 1140

ccatacaatg acaacctaata accttgcaaaa gaagcaggat tgaagttttc caaaggagag  
 1200  
 attcttcaga ttgtaaatag agaagatcca aattggtggc aggctagcca tgtaaaagag  
 1260  
 ggaggaagcg ctggtctcat tccaagccag ttectggaag agaagagaaa ggcatttggt  
 1320  
 agaagagact gggacaattc aggacctttt tgtggaacta taagtagcaa aaaaaagaaa  
 1380  
 aagatgatgt atctcacaac cagaaatgca gaatttgatc gtcatgaaat ccagatatat  
 1440  
 gaggaggtag ccaaaatgcc tcccttcag agaaaaacat tagtattgat aggagctcaa  
 1500  
 ggtgtaggcc gaagaagctt gaaaaacagg ttcatagtat tgaatccac tagatttgga  
 1560  
 actacggtgc catttacttc acggaaacca agggaagatg aaaaagatgg ccaggcatat  
 1620  
 aagtttgtgt cacgatctga gatggaagca gatattaaag ctggaaagta tttggaacat  
 1680  
 ggggaatatg aaggaaatct ctatggaacc aaaattgatt ctattcttga ggtgtccaa  
 1740  
 actggacgga cttgcattct ggatgtcaac ccacaagcac tgaaagtatt gaggacatca  
 1800  
 gagtttatgc cctatgtggt atttattgcg gctccggagc tagagacggt acgtgccatg  
 1860  
 cacaaggctg tgggtggatgc aggaatcact accaagcttc tgaccgactc tgacttgaag  
 1920  
 aaaacagtgg atgaaagtgc acggattcag agagcataca accactattt tgatttgatc  
 1980  
 atcataaatg ataacttaga caaagccttt gaaaaactgc aaactgccat agagaaactg  
 2040  
 agaatggaac cacagtgggt cccaatcagc tgggtttact gatgattcag taaggttaac  
 2100  
 aatgaaaatt aaactcttaa aaagtgactg caacaaataa accttctact gagaaaatac  
 2160  
 atcacagata gaagattatc tgctaagtcc aggcattttt atggtgtaga ttgaaataat  
 2220  
 agtacacttc tgaattttta tataaaatgt ggttggaagg tgtactaata tataatttat  
 2280  
 cttattttt ctaactttgt atggataatc tttctattca tatcacataa agaaatgcgt  
 2340  
 tgaagcaaaa aaaaaaaaaa aaaaaa  
 2366

&lt;210&gt; 5228

&lt;211&gt; 550

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5228

Arg Leu Gly Val Val Glu Ile Gly Arg Ile Pro Gly Gly Ile Trp Glu  
 1 5 10 15

Asn Leu Thr Glu Leu Pro Ser Ser Thr Gly Ala Glu Glu Ile Asp Leu  
 20 25 30

Ile Phe Leu Lys Gly Ile Met Glu Asn Pro Ile Val Lys Ser Leu Ala

	35						40						45					
Lys	Ala	Arg	Glu	Arg	Leu	Glu	Asp	Ser	Lys	Leu	Glu	Ala	Val	Ser	Asp			
50						55					60							
Asn	Asn	Leu	Glu	Leu	Val	Asn	Glu	Ile	Leu	Glu	Asp	Ile	Thr	Pro	Leu			
65					70					75					80			
Ile	Asn	Val	Asp	Glu	Asn	Val	Ala	Glu	Leu	Val	Gly	Ile	Leu	Lys	Glu			
				85					90					95				
Pro	His	Phe	Gln	Ser	Leu	Leu	Glu	Ala	His	Asp	Ile	Val	Ala	Ser	Lys			
			100					105					110					
Cys	Tyr	Asp	Ser	Pro	Pro	Ser	Ser	Pro	Glu	Met	Asn	Asn	Ser	Ser	Ile			
		115					120					125						
Asn	Asn	Gln	Leu	Leu	Pro	Val	Asp	Ala	Ile	Arg	Ile	Leu	Gly	Ile	His			
		130				135					140							
Lys	Arg	Ala	Gly	Glu	Pro	Leu	Gly	Val	Thr	Phe	Arg	Val	Glu	Asn	Asn			
145					150					155					160			
Asp	Leu	Val	Ile	Ala	Arg	Ile	Leu	His	Gly	Gly	Met	Ile	Asp	Arg	Gln			
				165					170					175				
Gly	Leu	Leu	His	Val	Gly	Asp	Ile	Ile	Lys	Glu	Val	Asn	Gly	His	Glu			
			180				185						190					
Val	Gly	Asn	Asn	Pro	Lys	Glu	Leu	Gln	Glu	Leu	Leu	Lys	Asn	Ile	Ser			
		195					200					205						
Gly	Ser	Val	Thr	Leu	Lys	Ile	Leu	Pro	Ser	Tyr	Arg	Asp	Thr	Ile	Thr			
		210				215					220							
Pro	Gln	Gln	Val	Phe	Val	Lys	Cys	His	Phe	Asp	Tyr	Asn	Pro	Tyr	Asn			
225					230					235					240			
Asp	Asn	Leu	Ile	Pro	Cys	Lys	Glu	Ala	Gly	Leu	Lys	Phe	Ser	Lys	Gly			
				245					250					255				
Glu	Ile	Leu	Gln	Ile	Val	Asn	Arg	Glu	Asp	Pro	Asn	Trp	Trp	Gln	Ala			
			260					265					270					
Ser	His	Val	Lys	Glu	Gly	Gly	Ser	Ala	Gly	Leu	Ile	Pro	Ser	Gln	Phe			
		275					280					285						
Leu	Glu	Glu	Lys	Arg	Lys	Ala	Phe	Val	Arg	Arg	Asp	Trp	Asp	Asn	Ser			
		290				295					300							
Gly	Pro	Phe	Cys	Gly	Thr	Ile	Ser	Ser	Lys	Lys	Lys	Lys	Lys	Met	Met			
305					310					315					320			
Tyr	Leu	Thr	Thr	Arg	Asn	Ala	Glu	Phe	Asp	Arg	His	Glu	Ile	Gln	Ile			
				325					330					335				
Tyr	Glu	Glu	Val	Ala	Lys	Met	Pro	Pro	Phe	Gln	Arg	Lys	Thr	Leu	Val			
			340					345					350					
Leu	Ile	Gly	Ala	Gln	Gly	Val	Gly	Arg	Arg	Ser	Leu	Lys	Asn	Arg	Phe			
		355					360					365						
Ile	Val	Leu	Asn	Pro	Thr	Arg	Phe	Gly	Thr	Thr	Val	Pro	Phe	Thr	Ser			
					375						380							
Arg	Lys	Pro	Arg	Glu	Asp	Glu	Lys	Asp	Gly	Gln	Ala	Tyr	Lys	Phe	Val			
385					390					395					400			



465		470		475		480									
Val	Val	Asp	Ala	Gly	Ile	Thr	Thr	Lys	Leu	Leu	Thr	Asp	Ser	Asp	Leu
			485						490					495	
Lys	Lys	Thr	Val	Asp	Glu	Ser	Ala	Arg	Ile	Gln	Arg	Ala	Tyr	Asn	His
		500						505					510		
Tyr	Phe	Asp	Leu	Ile	Ile	Ile	Asn	Asp	Asn	Leu	Asp	Lys	Ala	Phe	Glu
	515					520					525				
Lys	Leu	Gln	Thr	Ala	Ile	Glu	Lys	Leu	Arg	Met	Glu	Pro	Gln	Trp	Val
	530					535					540				
Pro	Ile	Ser	Trp	Val	Tyr										
545					550										

&lt;210&gt; 5229

&lt;211&gt; 1031

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5229

```

acgcgtgtgc tgtggttaca tccgtggaac agacagacag cagctgcccc tgcaaatgtc
60
agcgccagcc cagtcaaaag agcttgaaac ctaccaagcc ggaggactgt gctgtgcctc
120
tctgccccac attttcccca agcactctca ggaacctggc aacagtgtcc ccttgtggcc
180
aagcctggaa catcacatct gtacgttgca atctgtggat cagctacgag actgagagaa
240
aggaatgaaa ggatggaaga attacaagat caggcactgc tgtctgtctg ttccacggat
300
gtaaccacag cacacgcgtg gctcacggta ctagtgtgat aaatgcttgt tacatgaagg
360
cgtgaacagg gatgagaaga gacttctctg agaacaacaa ggactaaca ttaggaaggg
420
gaggtgatcg gggcaggagt aaagtggaca cctcagcaaa gccattcgct gtgatctctg
480
attgtgcagt gtcattgctt gtcaccagag cccctcgtg tttgatgttg gccaatgccg
540
ccagcatgat ctagcaggcc aaatccta ctaccattct ctgacaccag ctggtccctc
600
ggggtcgtcc acccgatgtc cccattctc cccacttggc ctccccaca ggctctcggc
660
aaaggaccgt gggaggcacc tgtgacactg cccttttctt gtgcagctgt ttttcttctt
720
cattcttttc actcctcggt actctttttt ttttcaactc cageccacac aaaactagga
780
actttgttat tctacttatt tttctgtact ctgtctgttt gcacacagat ggatatctga
840
gagccagcga actttcttta cctcctagta tcatttcatg aaaattagta gcacctgcac
900
aatggggcct tggagacagg aataaaagga aaaatctgga atggaatcac atgacgcaac
960
aggctatgaa gactccctgc ccggctgcta tatgtctggt aaacagaata aatagtactt
1020
gagcatcct g
1031

```

<210> 5230  
 <211> 102  
 <212> PRT  
 <213> Homo sapiens

<400> 5230  
 Met Ile Leu Gly Gly Lys Glu Ser Ser Leu Ala Leu Arg Tyr Pro Ser  
 1 5 10 15  
 Val Cys Lys Gln Thr Glu Tyr Arg Lys Ile Ser Arg Ile Thr Lys Phe  
 20 25 30  
 Leu Val Leu Cys Gly Leu Arg Val Lys Lys Lys Arg Val Thr Arg Ser  
 35 40 45  
 Glu Lys Asn Glu Glu Glu Lys Gln Leu His Arg Lys Arg Ala Val Ser  
 50 55 60  
 Gln Val Pro Pro Thr Val Leu Cys Arg Glu Pro Val Gly Glu Ala Lys  
 65 70 75 80  
 Trp Gly Glu Trp Gly Thr Ser Gly Gly Arg Pro Gln Gly Thr Ser Trp  
 85 90 95  
 Cys Gln Arg Met Val Asp  
 100

<210> 5231  
 <211> 845  
 <212> DNA  
 <213> Homo sapiens

<400> 5231  
 tccggatctt ggagggtaca gagggcgccc ctccggcctcc tcccttttcgg aggtggggac  
 60  
 aaggtggagg aagggctgca ggaggaggag ctctagcatc gcgacccgcc cgtccccgtc  
 120  
 cagtctggcc tgggcgcccgc gggaaacgctg tcctggctgc cgccaccga acagcctgtc  
 180  
 ctggtgcccc ggctccctgc cccgcgcccga gtcatgaccc tgcgcccctc actcctcccc  
 240  
 ctccatctgc tgetgctgct gctgctcagt gcggcggtgt gccgggctga ggctgggctc  
 300  
 gaaaccgaaa gtcccgtccg gaccctccaa gtggagaccc tggaggagcc cccagaacca  
 360  
 tgtgccgagc ccgctgcttt tggagacacg cttcacatac actacacggg aagcttggtg  
 420  
 gatggacgta ttattgacac ctccctgacc agagaccctc tggttataga acttgggcaa  
 480  
 aagcaggtga ttccaggtct ggagcagagt cttctcgaca tgtgtgtggg agagaagcga  
 540  
 agggcaatca ttccctctca cttggcctat ggaaaacggg gatttccacc atctgtccca  
 600  
 gcggatgcag tgggtgcagta tgacgtggag ctgattgcac taatccgagc caactactgg  
 660  
 ctaaagctgg tgaagggcat ttgcctctg gtagggatgg ccatgggtgcc agccctcctg  
 720  
 ggccctcattg ggtatcacct atacagaaag gccaatagac ccaaagtctc caaaaagaag  
 780

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☐ **FADED TEXT OR DRAWING**

☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☒ **GRAY SCALE DOCUMENTS**

☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**